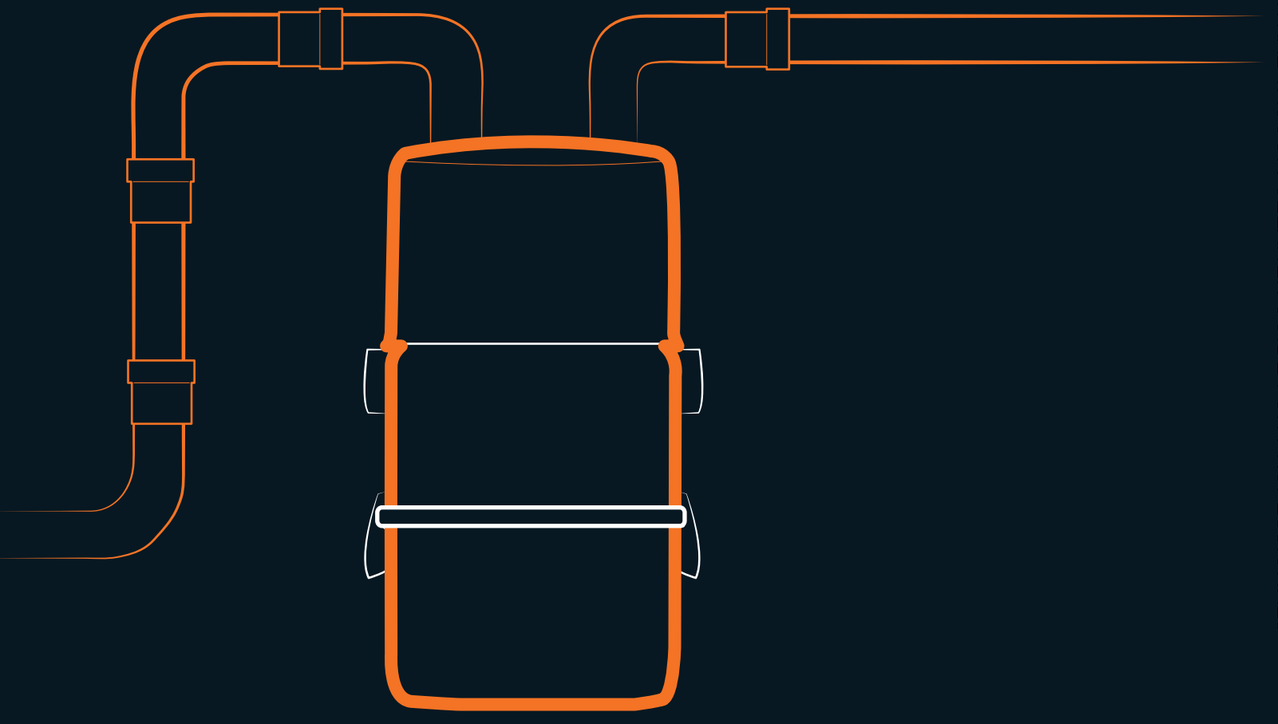
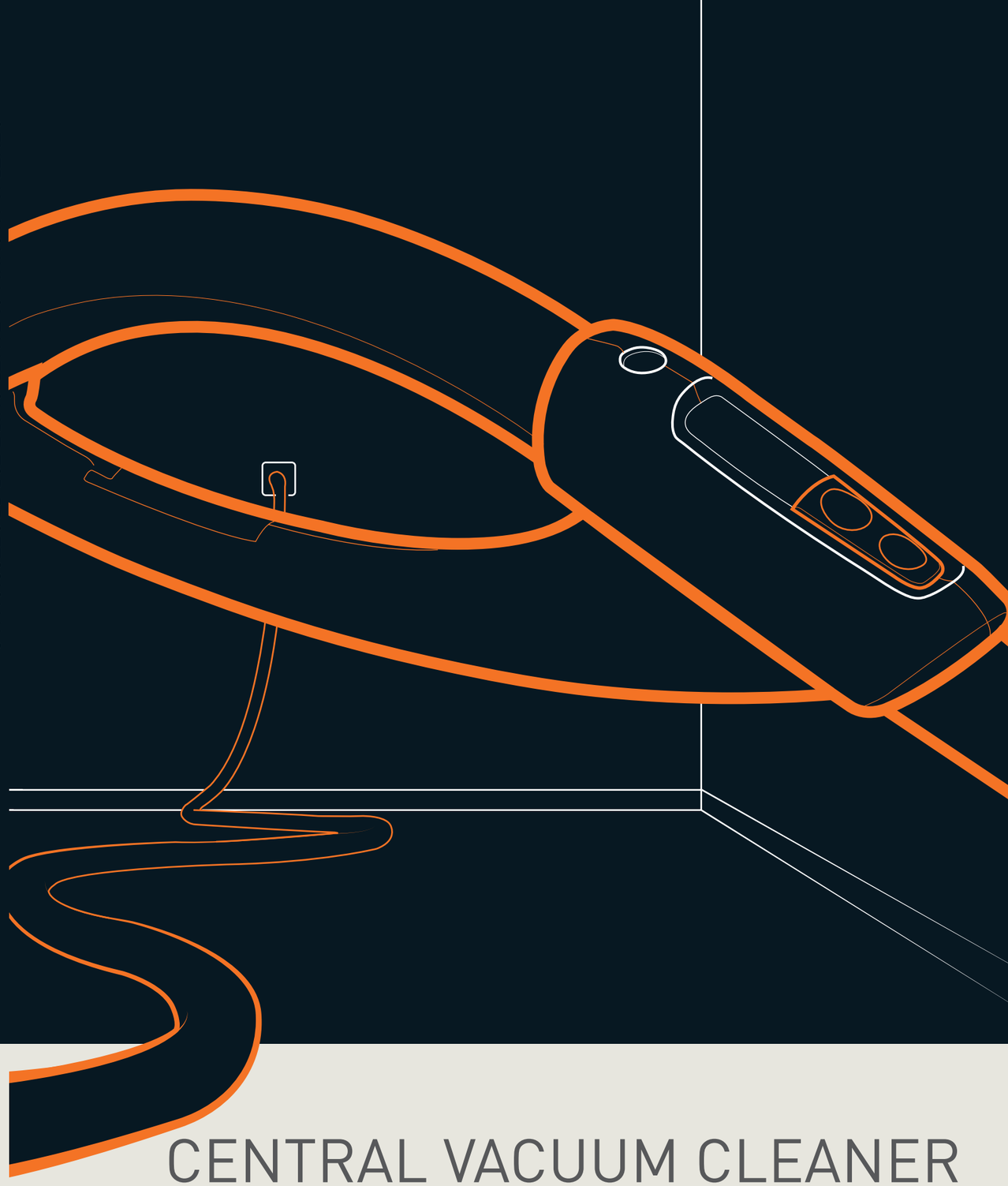


CENTRAL VACUUM CLEANER GUIDE FOR PROFESSIONALS



# CENTRAL VACUUM CLEANER GUIDE FOR PROFESSIONALS

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# CENTRAL VACUUM CLEANER GUIDE FOR PROFESSIONALS

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# COMPANY

Allaway Oy is a Finnish company which manufactures Allaway central vacuum cleaner systems and Ufox air humidifiers. It was established in 1982. Its factory and offices are located in Jyväskylä, central Finland. The Allaway central vacuum cleaner system has hundreds of thousands of users and it is the most popular central vacuum cleaner brand in Europe. Allaway offers durable high-quality products for home use and for more demanding professional use. Allaway develops, manufactures, markets and sells high-quality central vacuum cleaner systems and air humidifiers. The company follows and maintains the ISO 9001:2008 quality standard. All products are inspected prior to delivery and everyone at Allaway is committed to following the quality requirements.

## A HEALTHY HOME

Allaway strives to improve the quality of life. Everyday chores become easier, more comfortable and quicker to finish. The main focus of Allaway's operations is to improve indoor air quality and to have a positive effect on people's health.

The company's operations are based on expertise and professionalism and guided by environmental aspects and customer needs. This persistent, customer-oriented quality thinking that has been in place for decades earned Allaway the Lloyd's Register Quality Assurance ISO 9001:2008 quality certificate in 2002.

Figure 1. International Allaway.

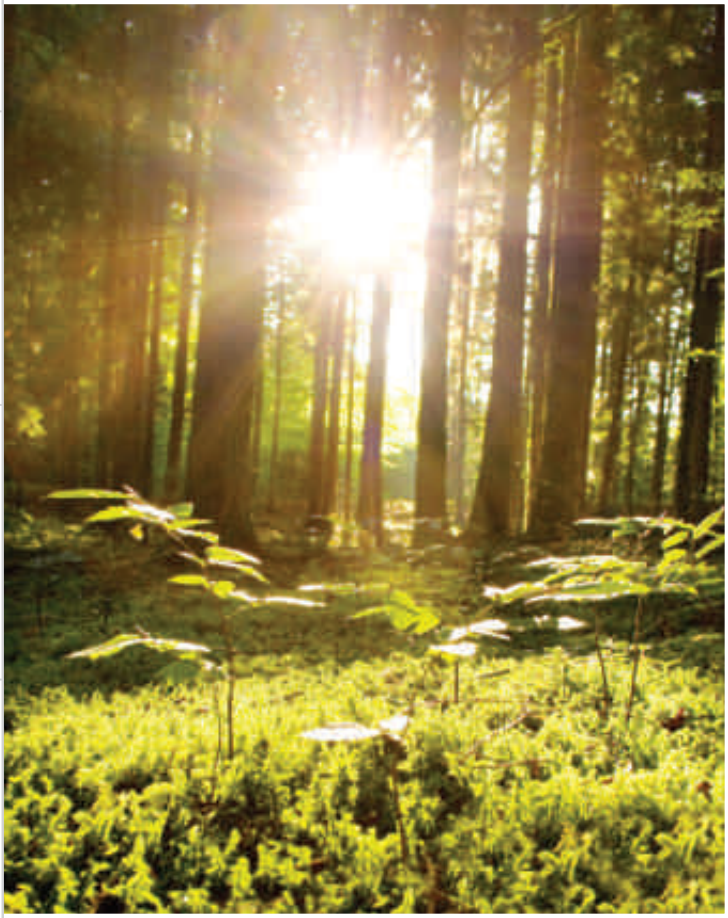

Figure 2. Allaway products are environmentally friendly.

## INTERNATIONAL ALLAWAY

Through its extensive network of importers, Allaway delivers central vacuum cleaners to Europe, Russia and the Middle East. Allaway's reputation as a reliable and high-quality system provider constantly opens doors to new market areas.

## ECOLOGICAL FOOTPRINT

What we leave behind matters to us. Therefore, the focus of our quality process is on using materials that have the least environmental impact in our products. Practice has shown that vacuum cleaning with a central vacuum cleaner often diminishes the need for vacuum cleaning as the amount of dust is reduced. This also leads to a decrease in energy consumption.

The fact that it is not necessary to use dust bags in our central vacuum cleaners reduces the amount of waste in households. If a dust bag is used, due to its large size it needs to be changed less often than dust bags in ordinary vacuum cleaners. When using a dust bag, the filter is changed only when necessary.

## GOOD QUALITY INDOOR AIR IS A FACTOR FOR GOOD QUALITY LIFE!

In one day the average man consumes around one litre of food and two litres of water and at least 15,000 litres of air. Therefore, the meaning of breathed air to health is unarguable. People spend over 90% of their time indoors, so the air that leaves the vacuum cleaner really matters.

According to studies, bad quality indoor air is one of the main factors contributing to the increase in allergies. In Europe over 80 million people suffer from some type of allergy and the number is constantly on the rise.

Each breathed litre of air includes millions of small particles (size under 2.5 micrometres) that penetrate deep into the lungs. The smaller the particles are, the deeper into the body they penetrate and the longer they stay in the body.

In our opinion the best way to clean is to use a central vacuum cleaner in which the vacuum cleaner's exhaust air that contains small allergenic particles is directed out of the living quarters.

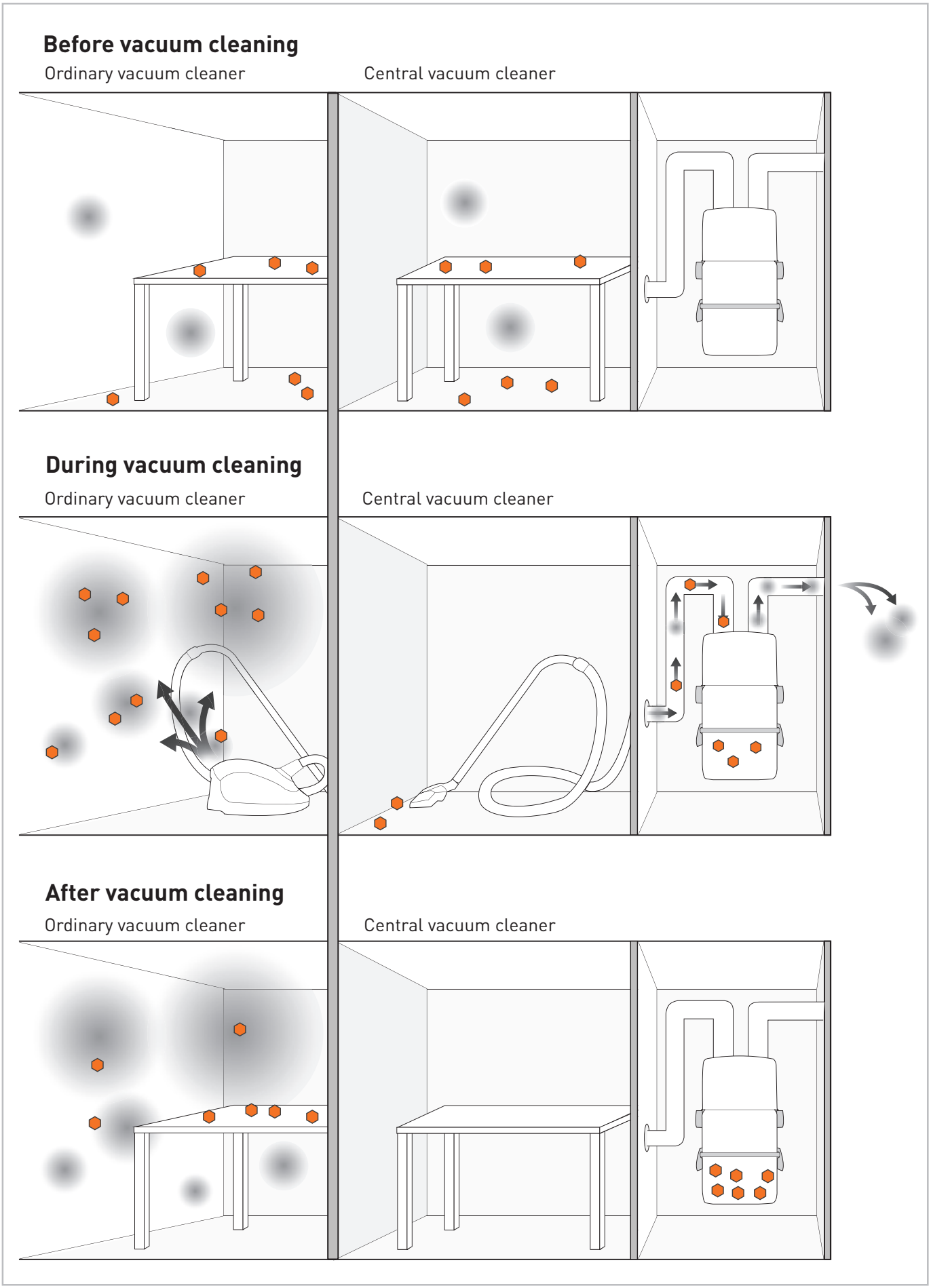


Figure 3. The quality of indoor air is significantly improved by using central vacuum cleaner.

# PRODUCT DEVELOPMENT AND QUALITY

One of the factors behind Allaway's operations is the company's own, long-span product development. Allaway product development is carried out jointly by designers and industrial designers. The production of high-quality products is guaranteed by the elegant design, carefully refined technique and usability. All products go through a careful testing process before being taken onto the market. Specific testing processes have been developed for each product group.

The Allaway testing process has two phases. In the first phase products are tested by an independent, external testing organization. The products that pass the process are granted approval as a token for the products' safety and functionality. In the second phase every product is tested once more by Allaway's own product development unit.

## ALLAWAY INNOVATIONS

Throughout the years, Allaway product development has come up with numerous innovations. Thanks to these innovations, Allaway has become a pioneer in the central vacuum cleaner markets.

- Piping that has been specifically developed to be used in the central vacuum cleaner system.
- Patented catchers in wall inlets.
- C-series wall bracket which also enables flush installation.
- Connecting muff which has a precise adapter and can therefore be utilised with pipes without muff.
- Extension hose that can be used to prolong the length of a handle-started suction hose.
- Bespoke, ergonomically designed cleaning equipment set.
- Dust bag installation kit - Allaway is the only central vacuum cleaner manufacturer that offers this as an option.
- Backflow valve that enables, among other things, the use of one joint exhaust air duct for several vacuum cleaners, for example in flats.
- Steel-framed containers that are manufactured with deep drawing technique for central units.

Figure 1. Measurement is part of product development activities.

# Measurement

During the product development phase, Allaway's products undergo strict measurements.

## MEASURING AND MARKING NOISE LEVELS

Measurements are carried out in an isolated, semi-anechoic chamber based on the IEC 60704 standard. In the measurement laboratory the pressure level of the noise is measured and marked with an LP marking. It is possible to use the pressure level to calculate other noise quantities, such as the noise power level which is marked with an LW marking. The unit for both quantities is decibel [dB].

The noise power level LW remains the same regardless of the distance of the listener/measuring microphone (in the example in Figure 1 the noise power level remains at the standard 73dB even though the noise pressure level changes according to Figure 3).

A weighting filter is commonly used in measuring the noise pressure level, for example A level. The purpose of the A weighting is to match the measurement to the hearing sensitivity of the human ear. The human ear can hear noises within the frequency of 16-16000Hz. The attenuation curves of the weighting filters are specified in, for example, the ISO standards.

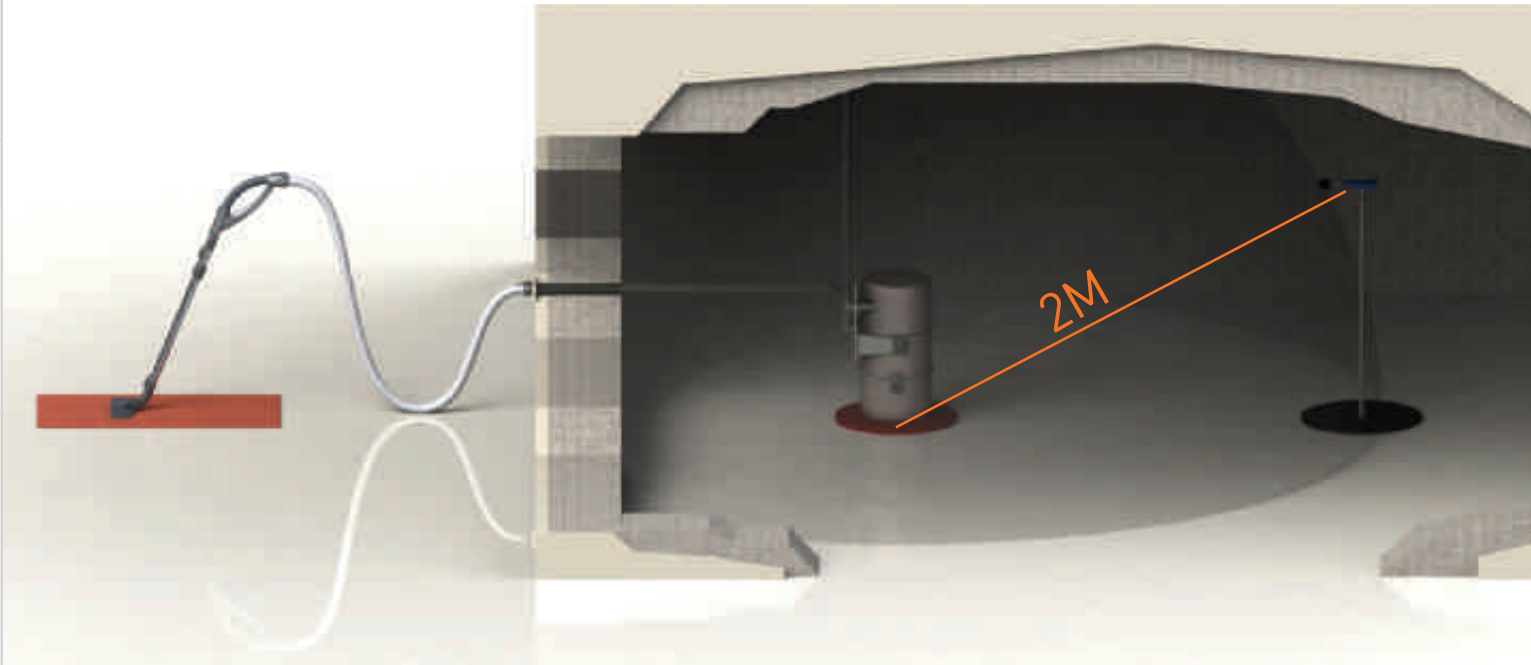


Figure 2. Measurements are carried out in a semi-anechoic chamber that is isolated from all noise sources based on the standard IEC 60704. During the measurement a normal cleaning situation is simulated.

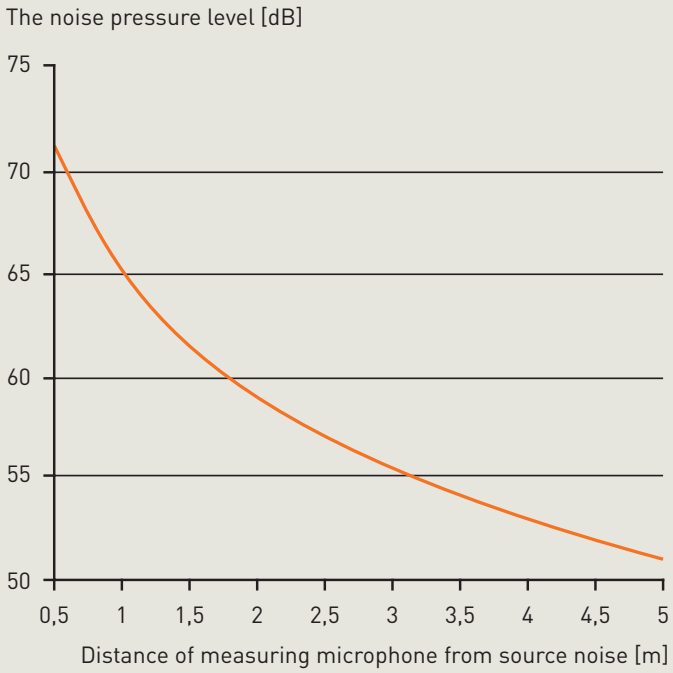


Figure 3. Noise pressure level is greater the closer the noise source is to the listener/measuring microphone.

## AN EXAMPLE OF THE NOISE PRESSURE LEVEL

Only a small part of an appliance's mechanical power turns into noise. In household appliances, for example, the figure is less than 0.001%.

Let's compare the earlier mentioned noise quantities to heat that radiates from a fireplace. Heat radiated from a fireplace feels hotter the closer a person stands to the fireplace. The same applies for the noise pressure level LP. Noise pressure level is greater the closer the listener/measuring microphone is located to the source of noise (Figure 3). From experience we know that the closer we stand to a loudspeaker, the louder the music sounds.

## THE ALLAWAY CENTRAL VACUUM CLEANER SYSTEM WORKS WITHOUT DISTURBANCE WITHIN THE POWER SUPPLY RANGE 207-244V.

All appliances in the Allaway central vacuum cleaner system are designed to work without disturbance within the power network voltage of 207-244V. The voltage's quality is based on the standard SFS-EN 50160, which has been specified by Cenelec (European Committee for Electrotechnical Standardization) and the Finnish Electricity Association. The standard specifies the effects of a divided electricity production to the voltage of the low and middle voltage electricity distribution network.

According to the standard, during each week 95% of the 10-minute average values of the distribution voltage's effective values must be within ±10% of the rated voltage $U_n$. Besides, in low voltage networks all the 10-minute average values of the voltage's effective values must be within $U_n$ +10%/-15%. When planning, the allowed voltage fluctuation in a low voltage customer's point of coupling is often allowed to vary between $U_n$ +6%/-10%, i.e. the low voltage customer's voltage must be within the range 207–244V. (SFS 2008; Laaksonen 2004)

## CENTRAL UNIT MEASUREMENTS

Besides the noise pressure levels, the central units are measured for low pressure levels and air power levels according to the EN standard 60312. The best solutions for accessories, such as filters and dust bags, are chosen through absorbency tests, pressure difference measurements and mechanical tests, for example.

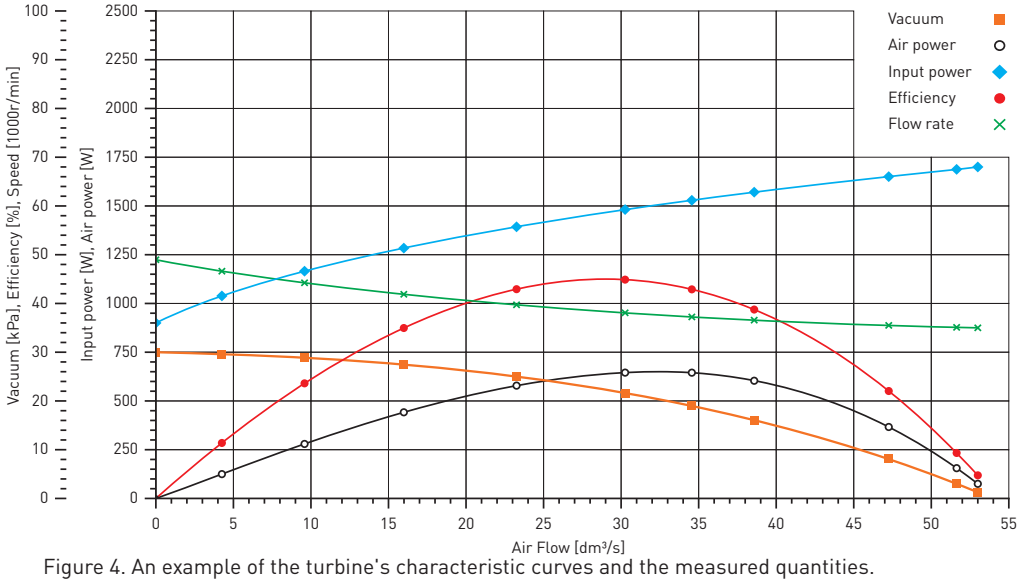


Figure 4. An example of the turbine's characteristic curves and the measured quantities.

The optimal suction power of an Allaway central vacuum cleaner is guaranteed by simultaneously measuring the low pressure and the air volume in the central unit. The best cleaning result is achieved at the highest point of the power curve. The measuring method used by Allaway is shown in Figure 5.

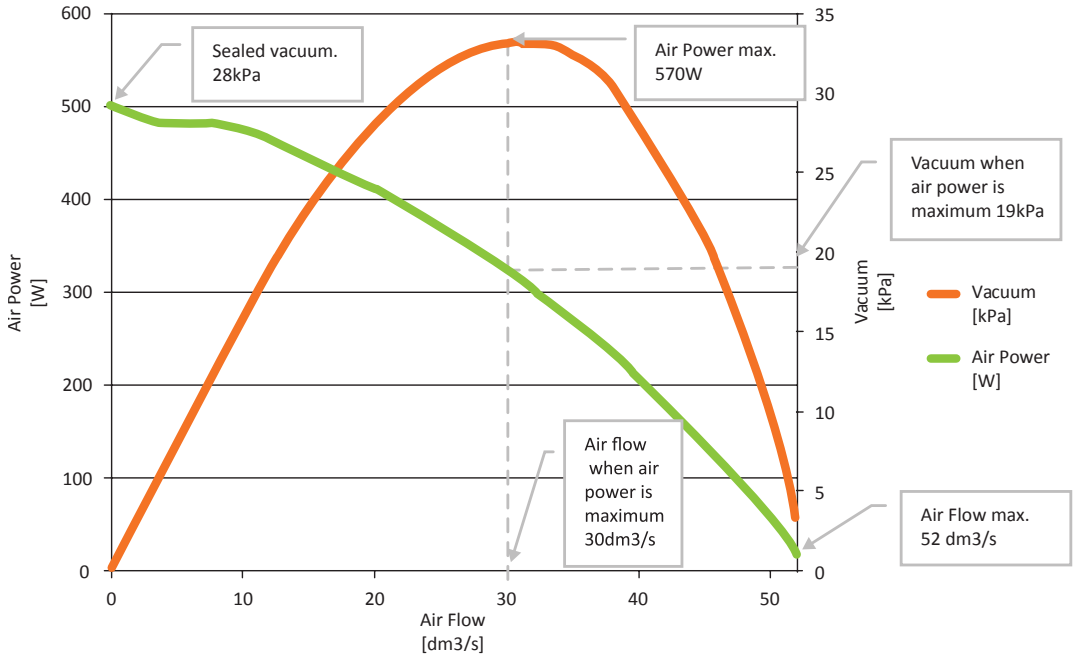
Sealed vacuum. 28kPa
Air Power max. 570W
Vacuum when air power is maximum 19kPa
Air flow when air power is maximum 30dm3/s
Air Flow max. 52 dm3/s
Air Power [W]
Vacuum [kPa]
Air Flow [dm3/s]
Vacuum [kPa]
Air Power [W]

Figure 5. An example for calculating the air power of the turbine.

Air power = vacuum x air flow

To calculate the max. air power you need to know the vacuum and air flow levels at time the air power is at its maximum (see the dotted lines in the figure). The maximum air power has been calculated in the following example: 30 dm3/s x 19 kPa = 570W. In some cases the vacuum cleaners' technicaltables only express the max. vacuum (usually closed vacuum) and max air flow. It is not possible to calculate the air power with those values, as they are not comparable.

Figure 6. The life time tests for turbines are carried out in Allaway's own laboratories.

Figure 7. The Allaway designed muff joint to the pipes is produced with Allaway's own muffing machine.

# Testing

## TURBINE TESTING

A powerful electric motor turbine is the main element of the central unit. Service life time tests are carried out at Allaway's own turbine laboratory according to a test programme that pushes the central unit significantly harder than during normal use. The results of the testing programme are analysed thoroughly, and the turbines are constantly developed in cooperation with the turbine manufacturers. The purpose of the life time tests is to find the best turbine models for the Allaway central units.

The new alternative turbine motors and turbine motors that are already in use are subjected to test runs in which the turbine motor is rotated in different on and off cycles until the turbine motor's carbon brushes are fully worn out or the turbine is otherwise damaged. After the test run the electric motor turbines are examined and the results are analysed to select the best possible turbines.

## PIPING SYSTEM

The air flow in the piping system has been tested and optimised with different testing lines. The prevention of blockages in the piping system has been studied using numerous methods that Allaway has developed by itself.

Allaway piping is designed for central vacuum cleaner usage, so a stable and fast flow of air (20-25 metres per second) is guaranteed. Allaway's product development unit has been working together with plastic industry specialists in developing the pipes' impact strength as optimal as possible. The elbows and Y-branches have special wearing surfaces in the places which are exposed to wearing and impacts.

The muff of the pipes is produced with Allaway's own muffing machine. The muff joint developed by Allaway is reliable and significantly eases the installation process - no glue is needed during installation. Each pipe is checked for quality before leaving the production line. The pipe must be symmetrically round and its inner surface must be smooth and clean. The pipe's round form is guaranteed by the sufficient strength of the pipe's walls.

Figure 8. Dust pick-up tests can be used to test the dust removal ability of the different types of nozzles on different types of surfaces, for example on hard floors or a range of different carpets.

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Figure 9. In other countries the importer or the importer's service-network is responsible for the Allaway products' guarantee service.

PYR

Figure 10. The recycling mark shows that Allaway packages can be recycled.

## TESTING THE SYSTEM

The Allaway central vacuum cleaner system is tested according to the testing methods of the standard EN 60312. The tests help to estimate, for example, durability of different types of cleaning equipment.

## CLEANING EQUIPMENT

In a drop test the nozzle or the handle is put into a test cylinder, which drops the piece to the bottom of the drum as it rotates. The number of drops relates to a certain level of wear on the product. The purpose of the test is to determine the nozzle or the handle's ability to sustain impacts with walls and thresholds in normal use.

The system's ability to remove dust is measured by a dust pick-up test. The tested ground is covered with test dust and the test nozzle is shifted with a back and forth movement on the test ground five times at a speed of 0.5 +/- 0.02 m/s. The measurement series is carried out three times and the result shows the ability to remove dust in %.

Special attention has been paid to the usability and ergonomics of the cleaning equipment. Our Premium cleaning equipment set has been developed in collaboration with researchers at the Finnish Institute of Occupational Health and usability experts at the JAMK University of Applied Sciences.

## SERVICE

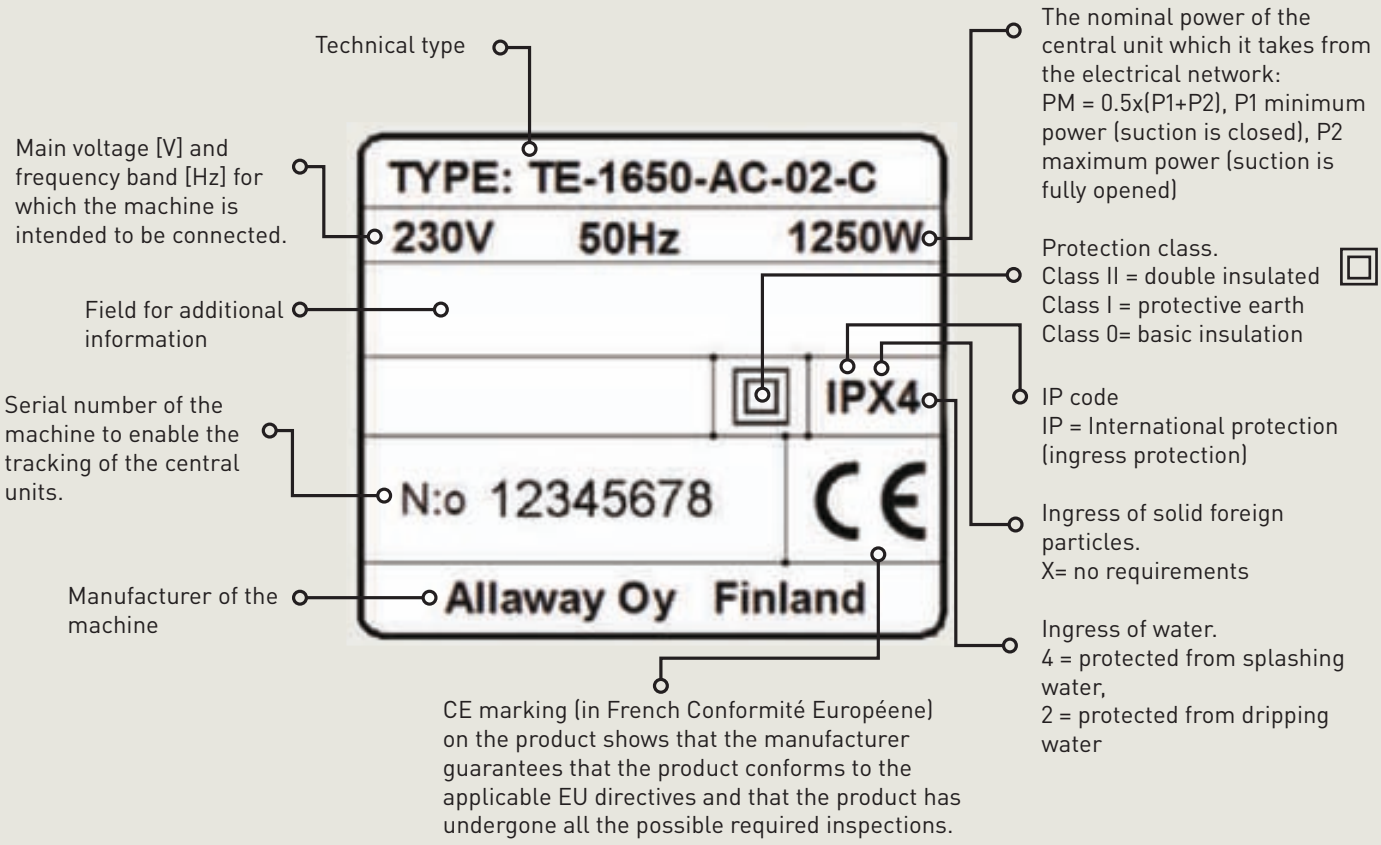
In Finland, Allaway supports an extensive network of qualified and authorised service dealers that serve customers quickly and professionally. The service dealers are responsible for the guarantee service of the products manufactured by Allaway Oy. In other countries the importer or the importer's service network is responsible for Allaway products' guarantee service.

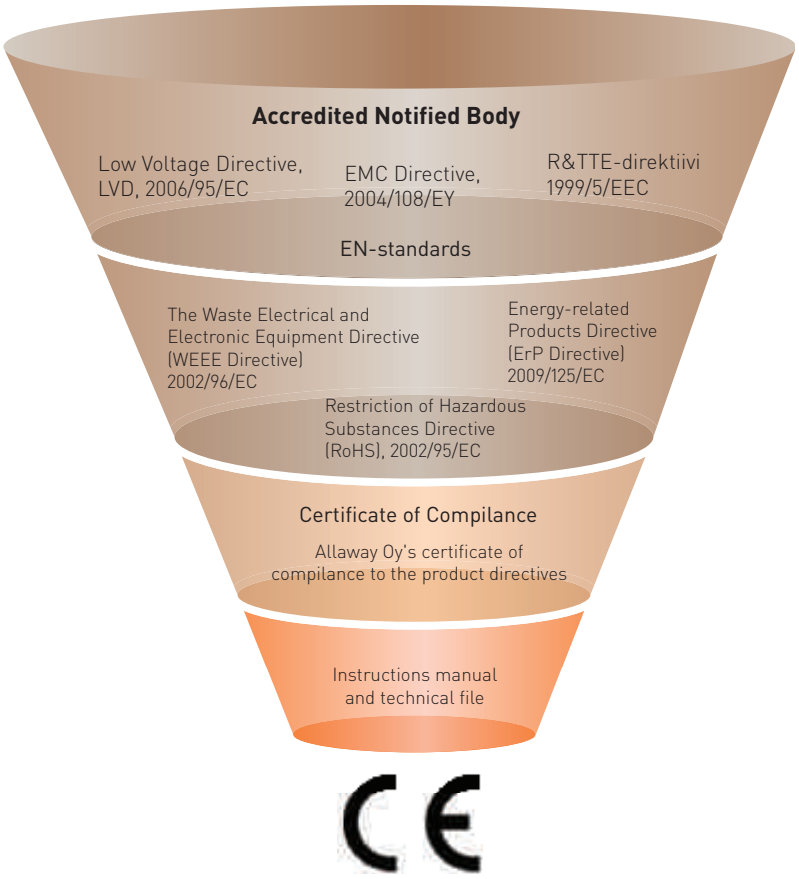
## PACKAGING

Allaway Oy takes care of the utilisation of the packages it has delivered to the market according to EU directives, laws on waste and the decisions and regulations set by the government. The Environmental Register of Packaging PYR Ltd grants the right to use its symbol to those companies that are registered at PYR and that utilise packaging.

The packages are also suitable for recycling, and this is indicated by a recycling mark in the packages.

## ALLAWAY RATING PLATE


Technical type
TYPE: TE-1650-AC-02-C
Main voltage [V] and frequency band [Hz] for which the machine is intended to be connected.
230V 50Hz 1250W
The nominal power of the central unit which it takes from the electrical network: PM = 0.5x(P1+P2), P1 minimum power (suction is closed), P2 maximum power (suction is fully opened)
Field for additional information
Protection class. Class II = double insulated Class I = protective earth Class 0= basic insulation
IPX4
IP code IP = International protection (ingress protection)
Serial number of the machine to enable the tracking of the central units.
N:o 12345678
Ingress of solid foreign particles. X= no requirements
Manufacturer of the machine
Allaway Oy Finland
Ingress of water. 4 = protected from splashing water, 2 = protected from dripping water
CE marking (in French Conformité Européene) on the product shows that the manufacturer guarantees that the product conforms to the applicable EU directives and that the product has undergone all the possible required inspections.

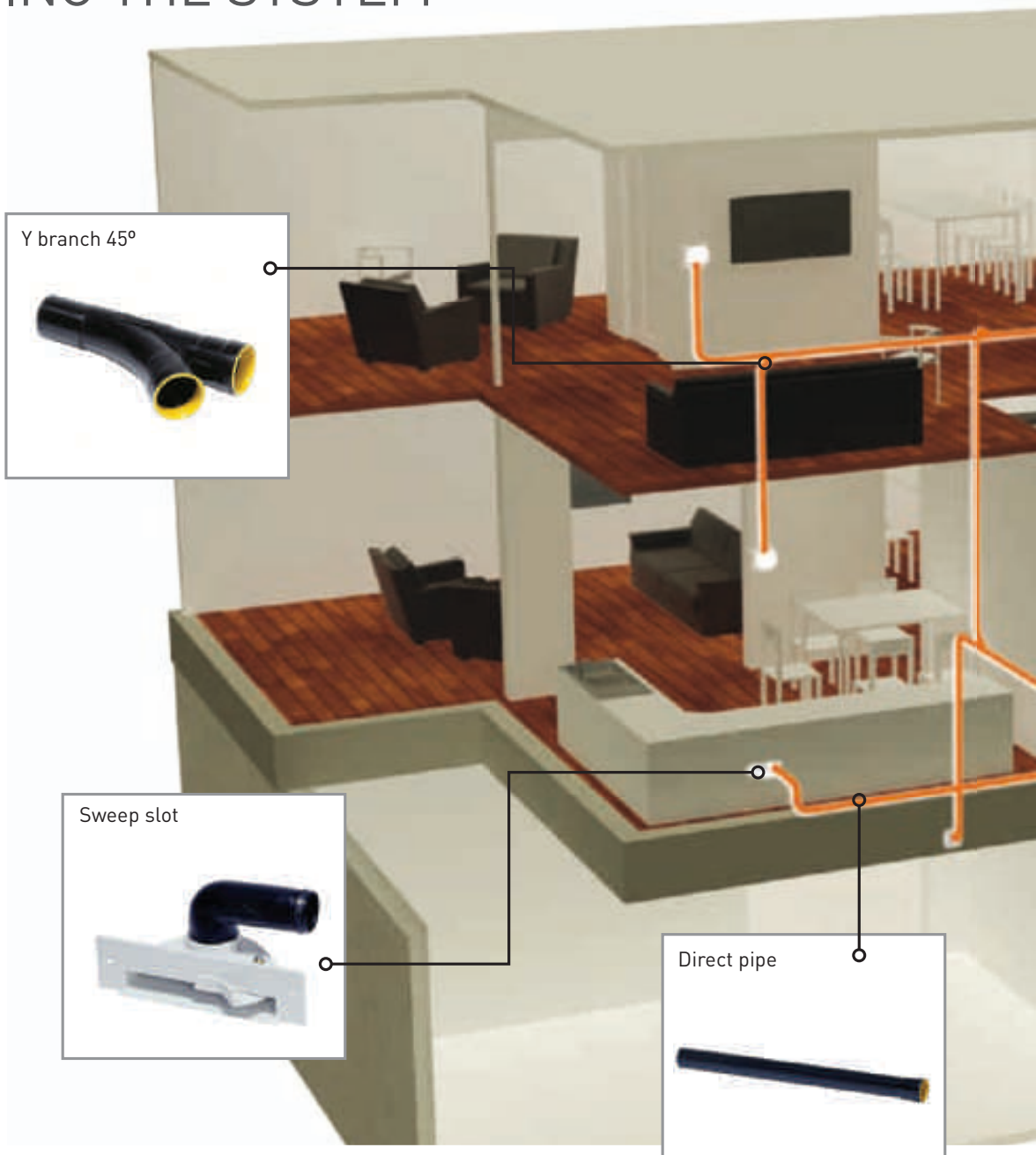

Accredited Notified Body
Low Voltage Directive, LVD, 2006/95/EC
EMC Directive, 2004/108/EY
R&TTE-direktiivi 1999/5/EEC
EN-standards
The Waste Electrical and Electronic Equipment Directive (WEEE Directive) 2002/96/EC
Energy-related Products Directive (ErP Directive) 2009/125/EC
Restriction of Hazardous Substances Directive (RoHS), 2002/95/EC
Certificate of Compilance
Allaway Oy's certificate of compilance to the product directives
Instructions manual and technical file
CE

In order to guarantee reliable CE marking for Allaway central units, the central units are subjected to testing during the design stages by the Accredited Notified Bodies. In these tests the units are tested for the important safety requirements that they must comply with before being safely introduced to the EU market.

In the designing of the central units, the directives that enhance the EU's goals for decreasing energy consumption, use of hazardous substances and unnecessary loading of the environment are taken into consideration.

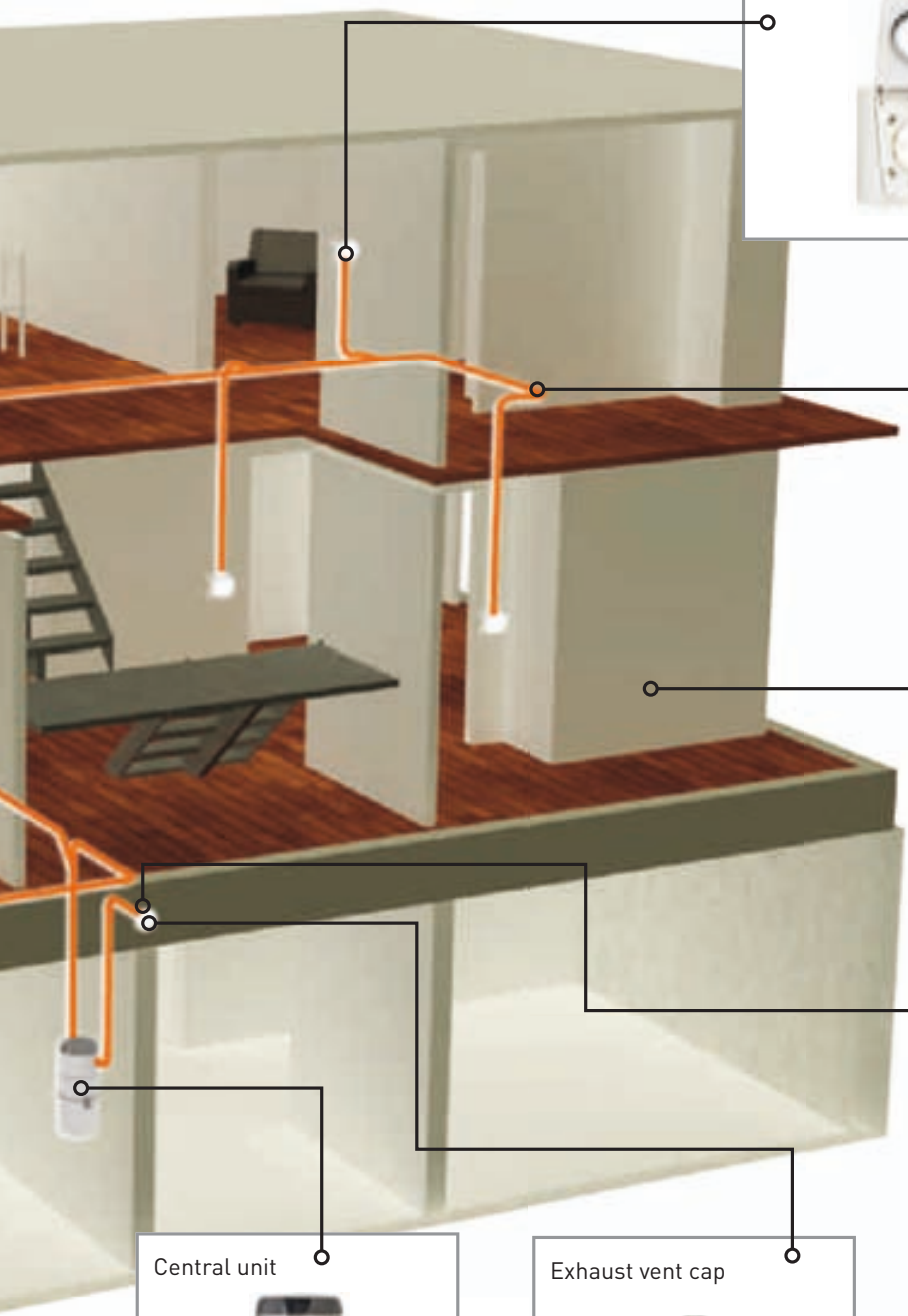
In the manual you will find the guarantee of conformity with which Allaway declares that its products are safe and conform to the requirements of applicable directives.

# DESIGNING THE SYSTEM




It is easy to design an Allaway central vacuum cleaning unit. The system consists of a central unit, piping, wall inlets and cleaning equipment. All parts of the system work seamlessly together, ensuring a long and reliable operating life. Allaway is the only central vacuum cleaner manufacturer with its own integrated system.

The Allaway central vacuum cleaner system can be installed during the building stages of the space, and retrofitting is also easily accomplished. Home systems are flat specific and can be used in detached houses, terraced houses and flats. The product selection offers a suitable system for each requirement. Professional spaces are often designed according to cleaning practices or cleaning areas. Please see Manta professional systems, page 75.



Wall inlet

Elbow in the piping system 90°

Cleaning equipment set

Silencer

Central unit

Exhaust vent cap

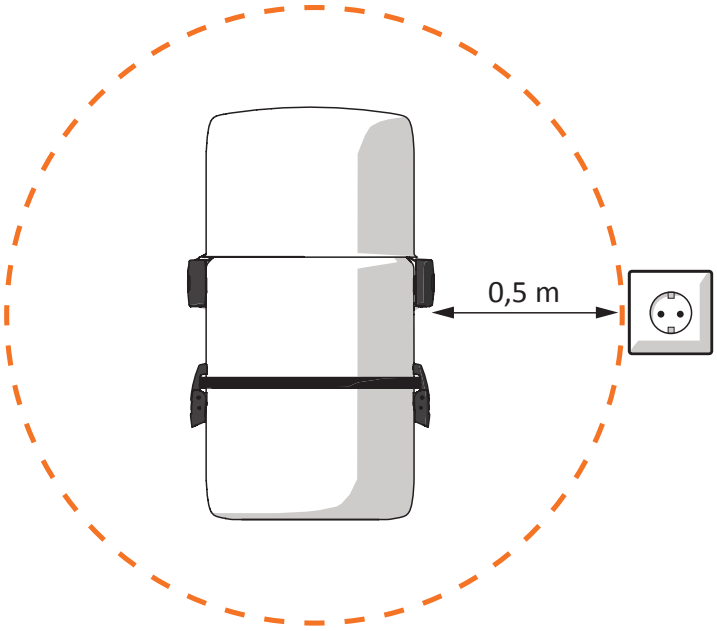



Figure 1. Remember to install a socket right next to the central unit.

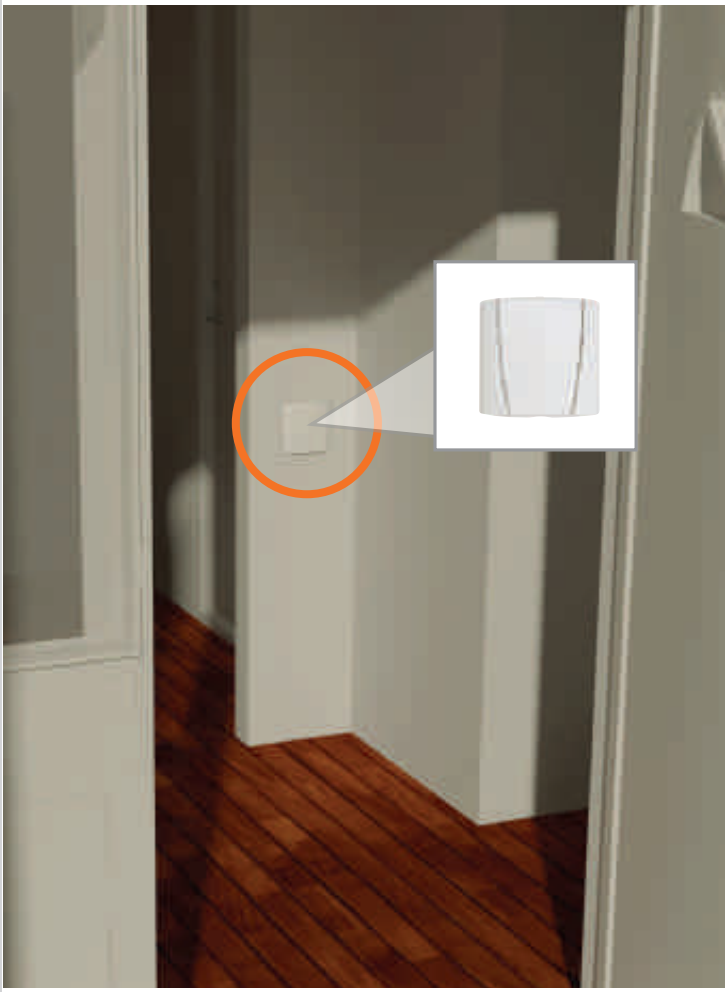


Figure 2. We recommend that wall inlets are installed at the same level as light switches.

# Designing

## INSTALLATION OF THE CENTRAL UNIT

The location of the central unit is the basis for the planning of the system. The type of central unit used depends on its planned location, and the size of the central unit is chosen according to the length of the longest suction pipeline.

**Please note with regard to the location of the central unit:**

- The choice of the central unit is dependent on the installation space. Depending on the central unit, the installation space can be located indoors, in a utility space, storage space or in some other secondary space. More information is available on each series.
- When installing the central unit on upper floors, it is recommended that the ascent is maximum 4 metres. There can be several ascents if there is a horizontal installation between the ascents that is as long as the ascent.
- There must be a socket in close proximity to the central unit (10A slow blow plug fuse or 16A automatic fuse).

## INSTALLATION OF THE WALL INLETS

When the wall inlets are installed, attention is paid to furnishings and the system must cover all premises that need to be cleaned. The suction hose is 8, 9, 10 or 12 metres long according to the contents of the cleaning equipment set and the country. Please also note the use of accessories like the preseparator or the expandable hose. In order to use the preseparator, the wall inlet can be installed near a fireplace. A wall inlet is needed for the expandable hose in the hallway, kitchen and next to the utility room, if there is one in the building. A wall inlet in the utility room makes the room easier to clean. The system can be supplemented by sweep slots that are installed in the support structures of the furniture. Rubbish can be swept into these sweep slots from, for example, the kitchen floor.

**Please note with regard to the installation of the wall inlets:**

- Aesthetic aspect - it is recommended that the wall inlets are installed at the same level as either the wall sockets or the light switches. There are several colour options for the Optima wall inlet cover to match all possible styles. When choosing the cover, it is recommended that all interior elements such as thickness, special walls and wall effects are taken into account
- Accessibility - in designing it is necessary to make sure that the wall inlets are accessible in terms of location of the furniture, fixed furniture and other possible obstacles.

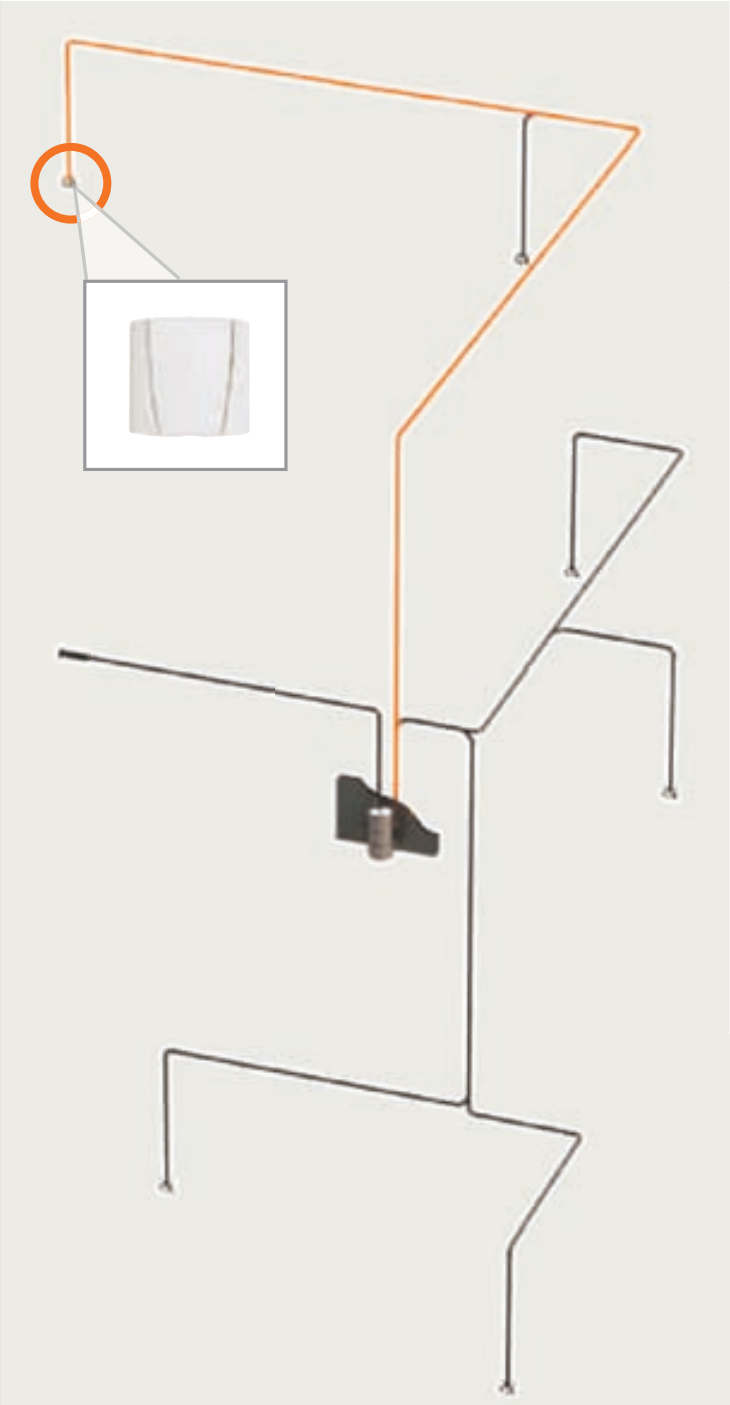


Figure 3. The longest pipeline is marked with orange. The central unit is chosen by the longest pipeline.

**PLEASE NOTE!**

In designing it is necessary to take note of the fire regulations on, for instance, compartmentation.
More information about fire regulations can be found on page 21. Local fire officials will give you more information about fire regulations.

- Practicality - There has to be enough wall inlets. Please note that the wall inlets should be located so that the vacuum cleaner is easy to use. We recommend that the number of wall inlets is increased instead of prolonging the hose. A hose with a maximum length of 8-10 metres is easy to use.
- Ergonomics - wall inlets should be installed in places that are ergonomically easy to reach. Please note the location of doors and the direction that they open in, and the direction that the wall inlets open in. If a wall inlet, for example, is installed at the same level with the light switches, it is advised that the installation is designed so that the cover opens upwards. If the wall inlet is installed close to the floor, on the same level as the wall socket, it is advised that the installation is designed so that the cover opens downwards.

## DESIGNING THE PIPING SYSTEM

The pipes in the Allaway system fit together seamlessly and offer many opportunities for developing optimal designs for each project. Good planning enables the optimisation of as straight a pipeline as possible. Unnecessary bends and corners are avoided and the number of the needed pipe parts is minimised.

**Please note this when planning the system:**

- The choice of the central unit is dependent on the length of the longest pipeline, i.e. the distance between the central unit and the wall inlet located furthest away. (See Figure 3.)
- Pipes must be supported evenly with pipe clamp – the supporting distance must be 1200mm-1800 mm.
- The pipes can run through all warm spaces, i.e. the ceiling, base floor, partition walls and floor casting.
- Please note any possible structural obstacles.
- The piping system can also be installed in cold spaces, such as an attic. However, it must be insulated with a 50 mm thick insulation layer.
- The support structures of the cupboards and the existing casings can be utilised in the planning/ installation of the piping systems.
- Allaway dust pipes are installed without glue or tape, except in casting installations in which the points of connection of the pipes are secured with tape.
- The maximum individual rise in the piping is 4 metres and in Manta systems it can be 6 metres.

Figure 4. Allaway has two types of silencer. Above is the basic silencer that reduces noise by approximately 14LpA (dB). Below is the turbo silencer that reduces noise by approximately 20LpA (dB).

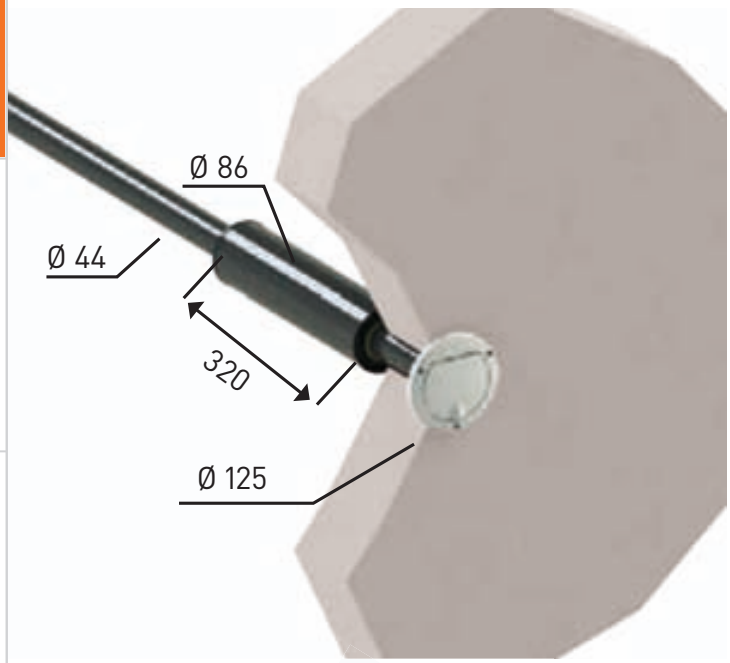



Figure 5. The silencer should be located as close to the end of the exhaust pipe as possible.

Figure 6. An adjustment coupling muff 44/75/80 is used when the size of the exhaust air pipe needs to be enlarged. The exhaust air pipe can be enlarged with a smooth pipe with an inner diameter of 75 mm if the length of the exhaust pipe exceeds 5 metres in length.

## SILENCERS

Usually a silencer for exhaust air is installed at the end of the exhaust pipe in the central vacuum cleaner to reduce the level of noise. The place for the silencer for exhaust air is located as near to the end of the exhaust pipe as possible. See Figure 5.

The exhaust air silencer reduces the noise by approximately 14LpA (dB). The turbo exhaust silencer reduces the noise by approximately 20LpA (dB) with one turbo exhaust silencer and by approximately 30 LpA (dB) with two turbo exhaust silencers (for example Manta systems).

## EXHAUST PIPE AND EXHAUST AIR

**Please note the following with regard to the location of the exhaust pipe and the exhaust air:**

- The exhaust vent cap must be easily opened in all seasons and weather conditions (for example water or snow accumulation).
- It is recommended that the exhaust pipe is located as far away as possible from windows, vents, ventilation replacement air holes and those areas of the garden where people want to spend their time.
- It is also possible to direct the exhaust air to the ceiling. In that case, rain water must be prevented from entering the piping by installing a leadthrough specially designed for this purpose. A leadthrough to the ceiling must be installed according to the manufacturer's instructions.
- If the exhaust pipe is more than 5 metres long, the pipe must be expanded with a adjustment coupling muff 44/75/80 to a 75 or 80 mm diameter smooth ventilator duct or sewer pipe. It is recommended that any possible expansion is located near the central unit. An exhaust pipe with a larger diameter efficiently silences the noise that is carried outside. In Manta systems the diameter of the exhaust air pipe depends on the number and model of the central units.

Information on the regulations, guidelines and orders on the exhaust pipe is available from the local authorities.

Figure 7. Air tightness is checked by closing all wall inlets or mounting brackets by using pipe plugs (DPI-66 and DPI-70).

Figure 8. Due to the innovative structure, a muff joint is also achieved when using connecting muff.

## TESTING THE SYSTEM

The piping system must be checked for leaks before the structures are closed. Air tightness is checked by closing all wall inlets or mounting brackets by using pipe plugs (See Figure 7). The central unit is started by connecting the starting circuits with, for example, wire. The central unit should be kept running for a maximum of one minute, and if there is air coming out of the exhaust pipe, the piping is leaking. Locate and repair the leakage. Do not use the unit for more than one minute when all wall inlets are closed, because when the turbine receives no air, it will overheat and may get damaged. Do not perform the air tightness check with overpressure.

The operation of the system should be tested in all wall inlets by sucking in some small particles that fit into the inlet. If the particle does not move from each inlet to the dust bag, there is a blockage in the piping. Locate and repair the blockage.

## CONNECTING MUFF

It is possible to connect two muffless pipes with connecting muff. Therefore, the muffless pipes coming from the worksite can be utilised. Thanks to its precise adapter, the connecting muff is sealed without the need for any separate piping seals.

The connecting muff is easy install and no separate tools are needed. The Allaway connecting muff is 10.2 cm long. When installing the connecting muff, ensure that the connecting muff is installed in the right way in relation to the flow direction of the piping. There are arrows in the connecting muff to indicate the correct flow direction.

Figure 9. Allaway dust piping guarantees that there are no blockages in the system.

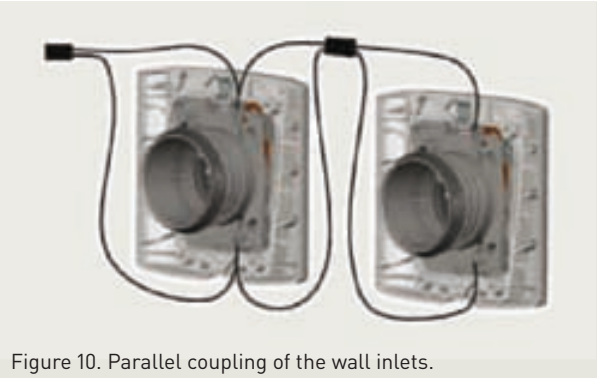


Figure 10. Parallel coupling of the wall inlets.

Figure 11. Allaway pipe clamp supports the pipes. Low voltage leads that run beside the piping have been accounted for in the pipe clamps.

Figure 12. When installing the piping in molding or masonry, protective tubing is extremely important.

Figure 13. Operation indicator provides potential-free contact information.

## LOW VOLTAGE LEAD

A 24V circuit is formed with a low voltage lead between the wall inlet and the central unit (Manta systems use a 12V circuit) In a system with several wall inlets the wall inlets are coupled parallel (see Figure 10). The leads can be connected both ways to the wall inlet connectors and the low voltage connector of the central unit. Several low voltage cables can also be connected to a separate collector connection strip from where they are connected to the low voltage connector. The low voltage leads should run inside protective tubing.

The protective tubing is particularly crucial when installing the piping to molding, masonry, or other places where changing the leads after potential damage is difficult. In other cases, such as when installing the leads to hung ceilings, the lead can be attached to the dust pipe with cable ties. It is recommended that the leads follow the lines of the body piping, but they can also be led through the easiest possible route. Low voltage leads to separate central units must not be connected to each other. The leads must always be extended and branched very carefully.

## OPERATION INDICATOR

The operation indicator follows the low voltage circuit of the central vacuum cleaner system to detect when the central unit is on and transmits potential-free contact information to the leads A-B of the indicator. The information can be used to control the ventilator, for example. With the help of the operation indicator, it is possible to prevent the formation of excessive low pressure and to reduce the air flow coming in from the structures (for example through the funnel). The device is intended only to be used together with Allaway central vacuum cleaners (but not with the Manta,  Sonis or CX central units).

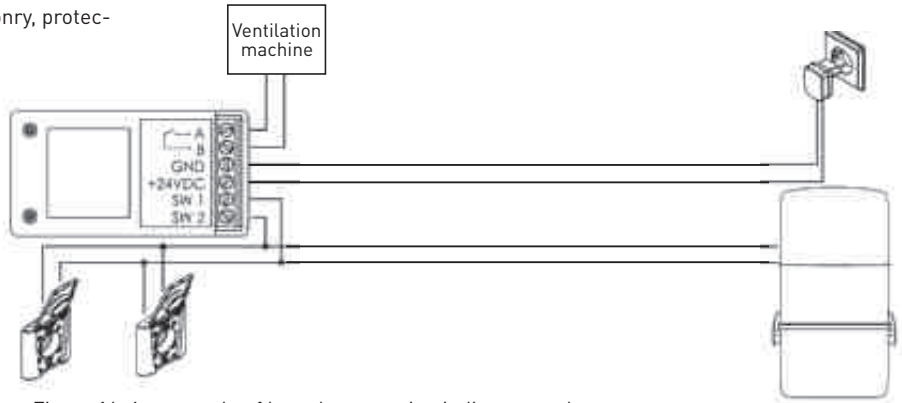



Figure 14. An example of how the operation indicator works.

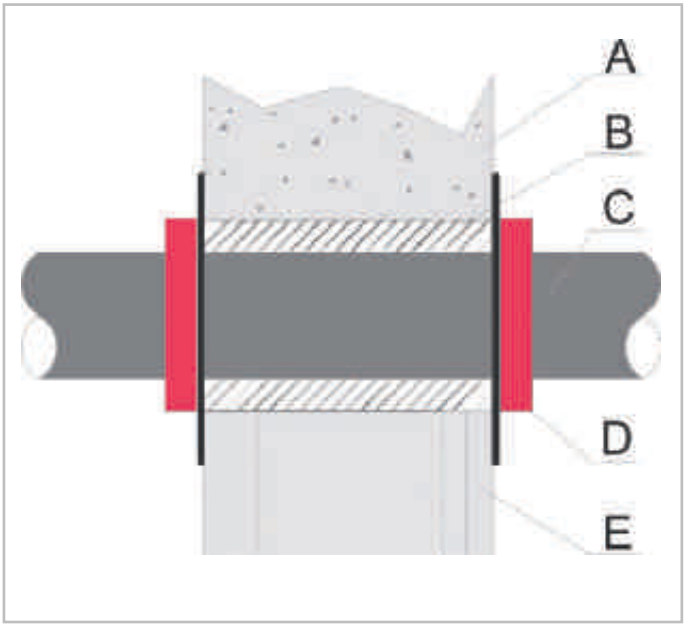



Figure 15. A Fire wall
B Insulation with non-flammable material
C Dust pipe 44 mm-diameter
D Approved fire barrier product
E Light partition

# FIRE REGULATIONS

When designing and installing a central vacuum cleaner system, the guidelines and regulations of the local fire officials must be followed. Special attention must be paid to the compartmentation and the regulations on the exits in terms of the permitted materials. More information is available from the local fire officials.

## LEADTHROUGHS IN COMPARTMENTATION STRUCTURES

In detached houses, the garage and boiler room are usually separate fire compartments Pipes may be led through compartmentation structures, assuming that the leadthrough does not significantly reduce the fireproof properties of the structures.

Use approved fire barrier products, for example firestop collars or masses, in leadthroughs of compartmentation structures. If necessary, ensure that the protection and casing class of the central unit correspond to the requirements of its location and the related equipment. More information is available from the local officials.

## EXPANSION JOINT

In special cases, for example in moulded structures, when the expansion joint is crossed, the dust piping must be isolated with 20-25 mm thick foam rubber for a length of one metre. This prevents the pipe from breaking at the expansion joint.

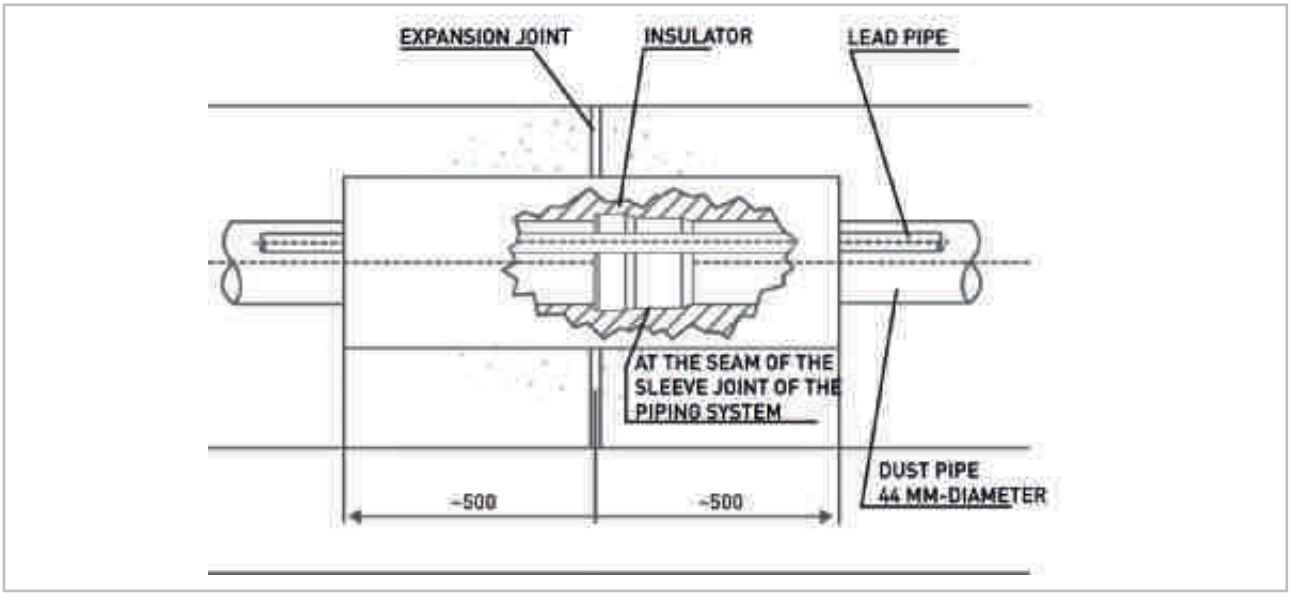



Figure 16. In moulded structures the expansion joints must be isolated with foam rubber.

# Case examples

### EXPLANATION FOR THE MARKINGS

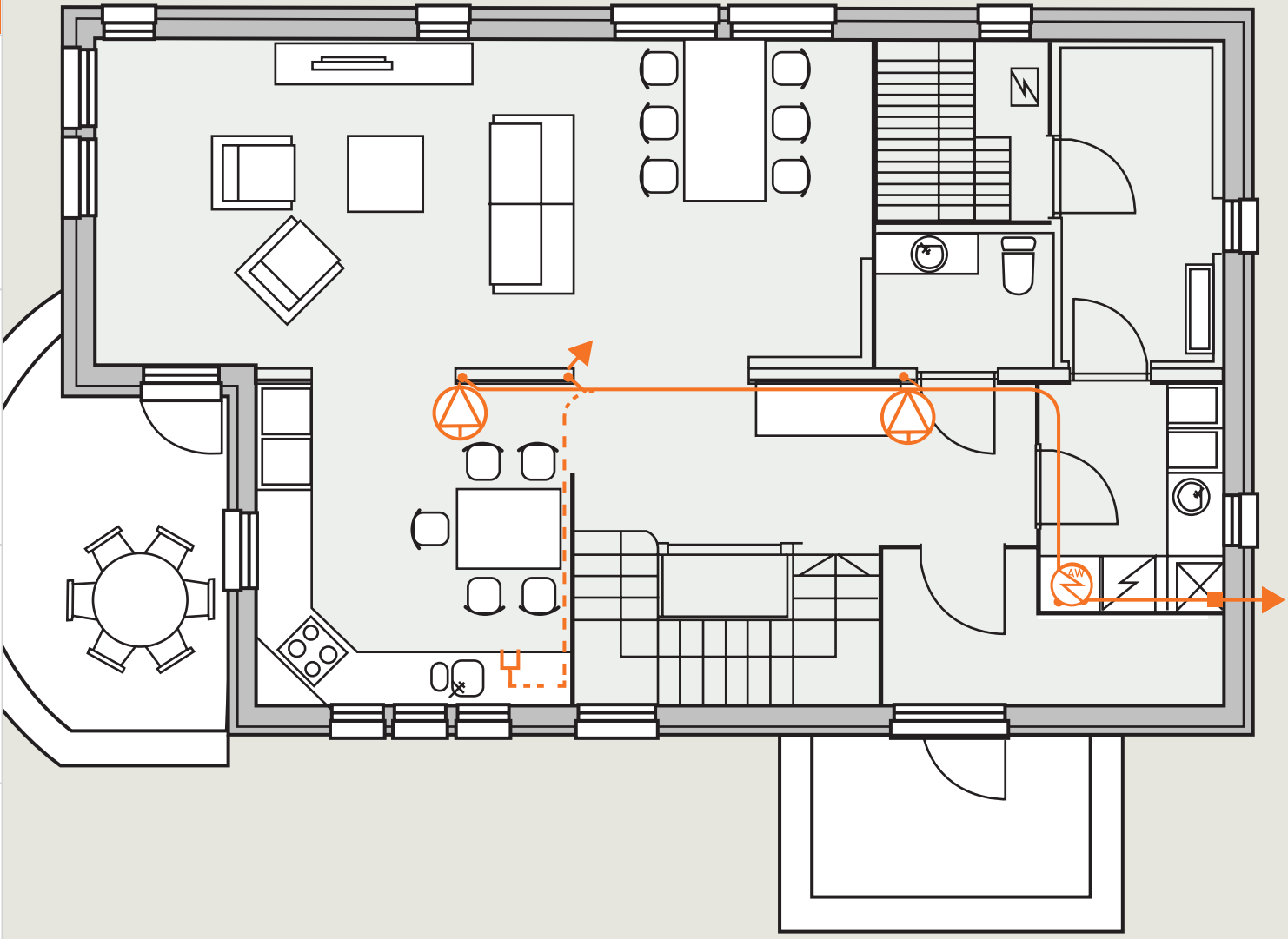
Piping system | Wall inlet | Central unit | Option | Exhaust pipe | Sweep slot | Silencer for exhaust air

Pipe up | Pipe down

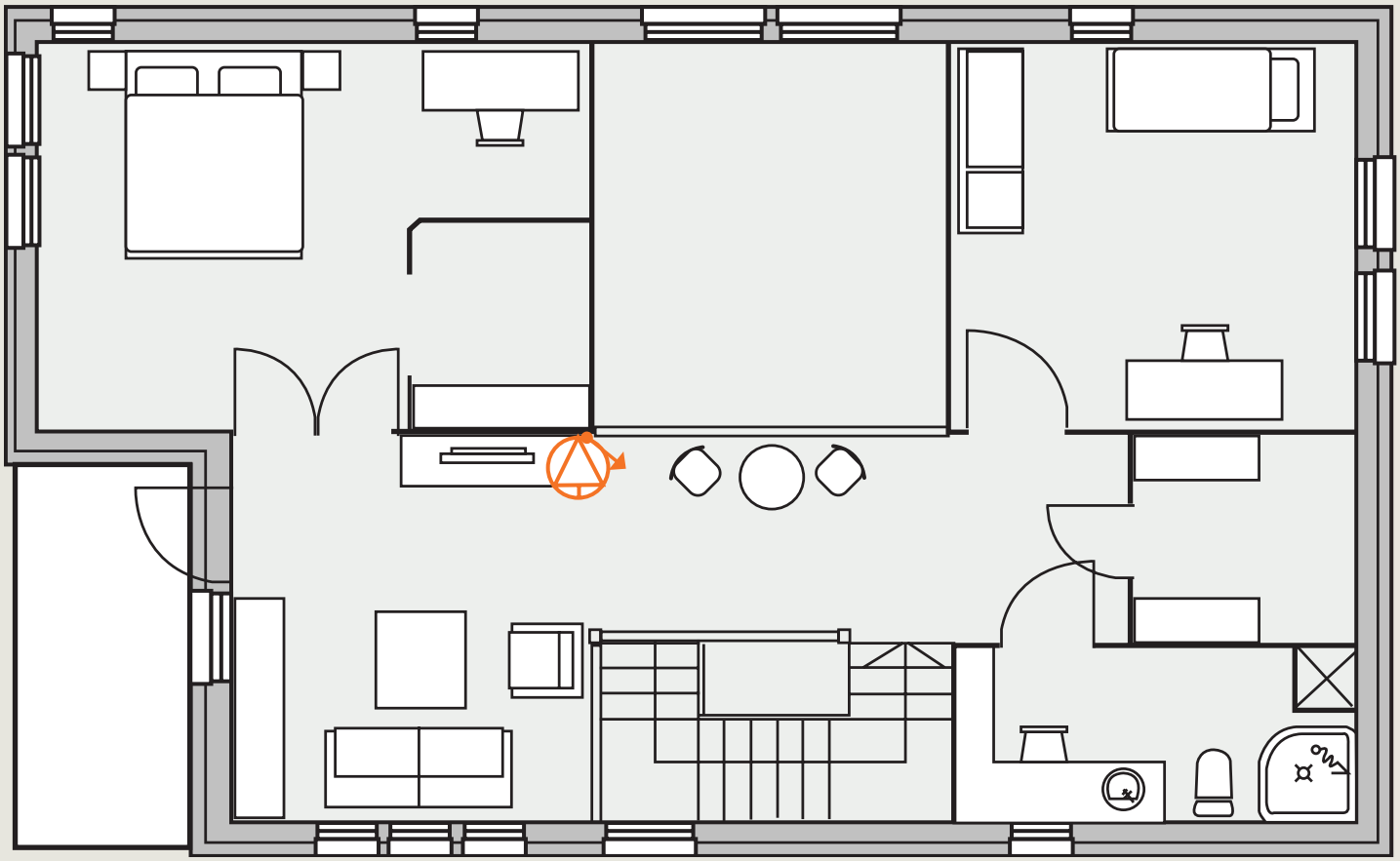
## DETACHED HOUSE

Central vacuum cleaner systems are designed for and installed in up to 80% of new detached houses built in Finland. The system can also be installed in prefabricated detached houses. In the example house the wall inlets have been installed so that a 10-metre hose is long enough for vacuum cleaning. The exhaust pipe is located at the end of the house, as far away as possible from the garden.

### DOWNSTAIRS



## UPSTAIRS



### ACCESSORIES

- C30
- Wall bracket
- 22 m pipe
- Elbow 90° 6 pcs
- Elbow 45° 3 pcs
- Wall inlet 3 pcs
- Branch 2 pcs
- Cleaning equipment set 9-10 m
- Silencer

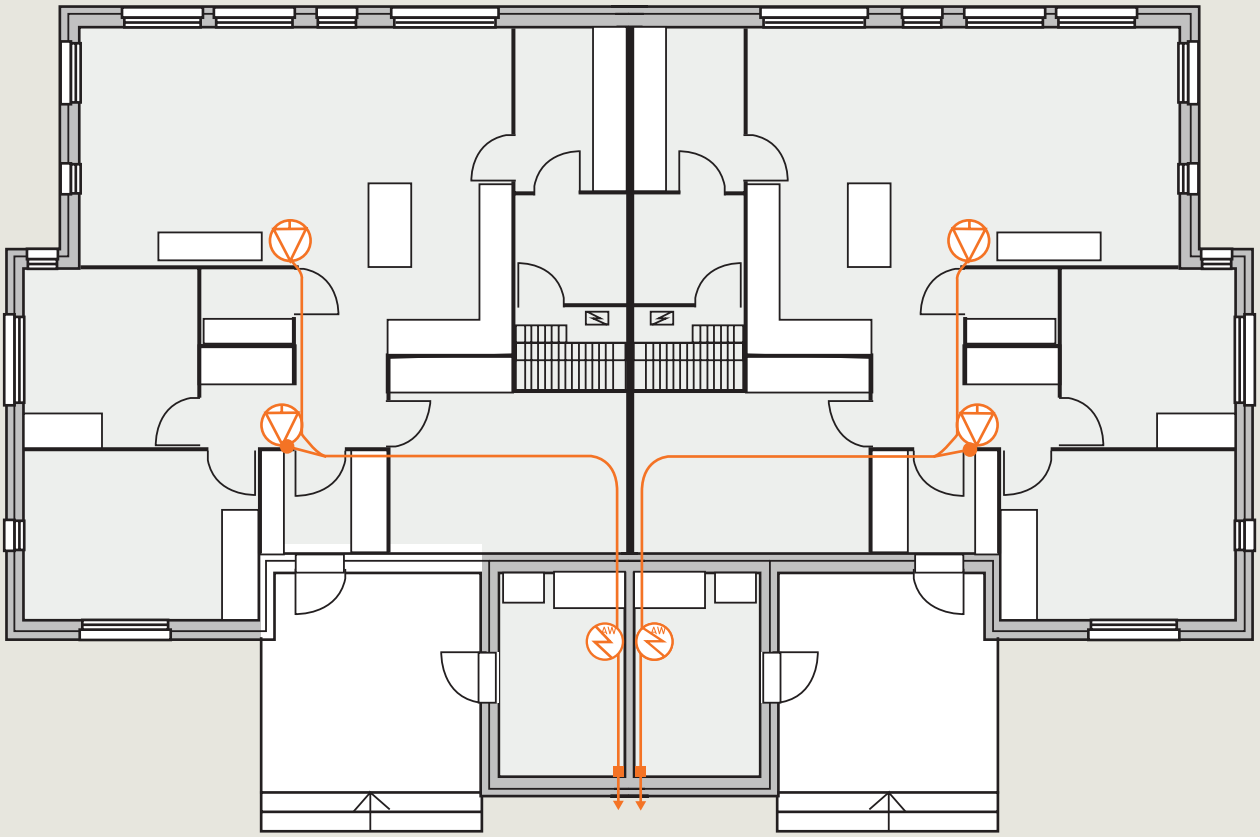
### ACCESSORIES:

- Sweep slot
- expandable hose (length 1 m, but expands to 4 m → can be stored in the cutlery drawer)

In log cabins, the design of the central vacuum cleaner system is in some parts different to the design of systems in detached houses. In log homes, the wall inlets can be best installed in light partition walls, masonry walls or the support structure of fixed furniture. Guidelines and instructions on the design process of the systems for log cabins is available at www.Allaway.com

# SEMI-DETACHED HOUSE

In semi-detached houses the central vacuum cleaner system is designed the same way as in detached houses, specifically for each dwelling, but the dwellings can also use a joint exhaust duct. In this case the central unit must come from the C-series. Common fire regulations must be followed when designing the blow-out.



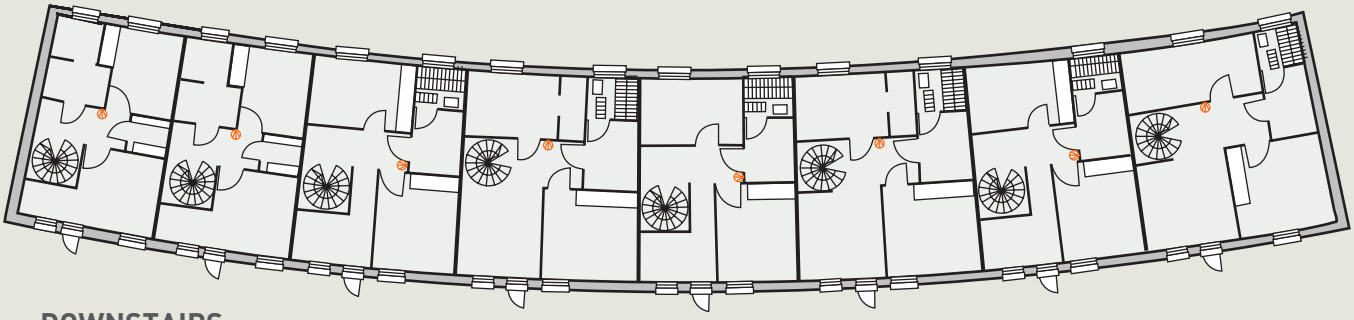
**ACCESSORIES:**

- Central unit C30
- 24m pipe
- Elbow 90° 5 pcs
- Elbow 45° 4 pcs
- Branch 1 pcs
- Wall inlet 2 pcs
- Silencer for exhaust air
- Cleaning equipment set 10m

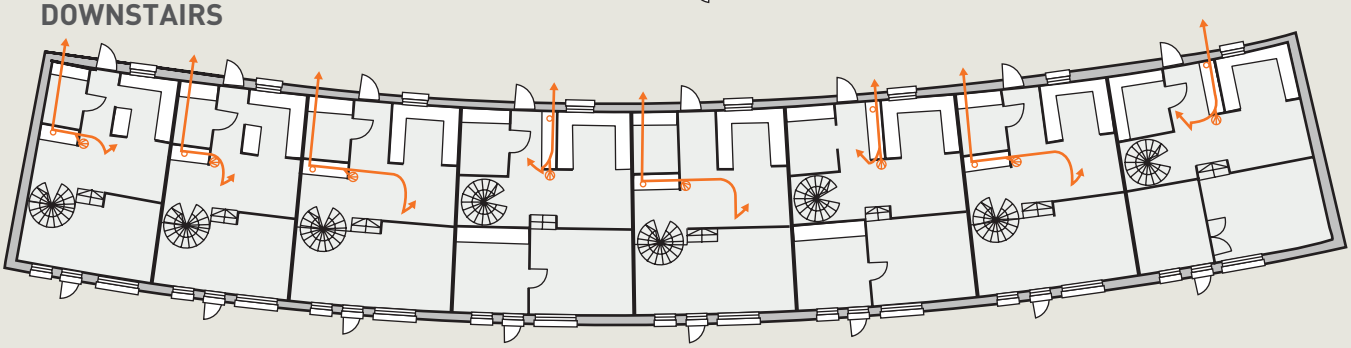
# TERRACED HOUSE

The Allaway central vacuum cleaner is easy to install in a terraced house. In terraced houses the system is designed specifically for each dwelling.

**UPSTAIRS**

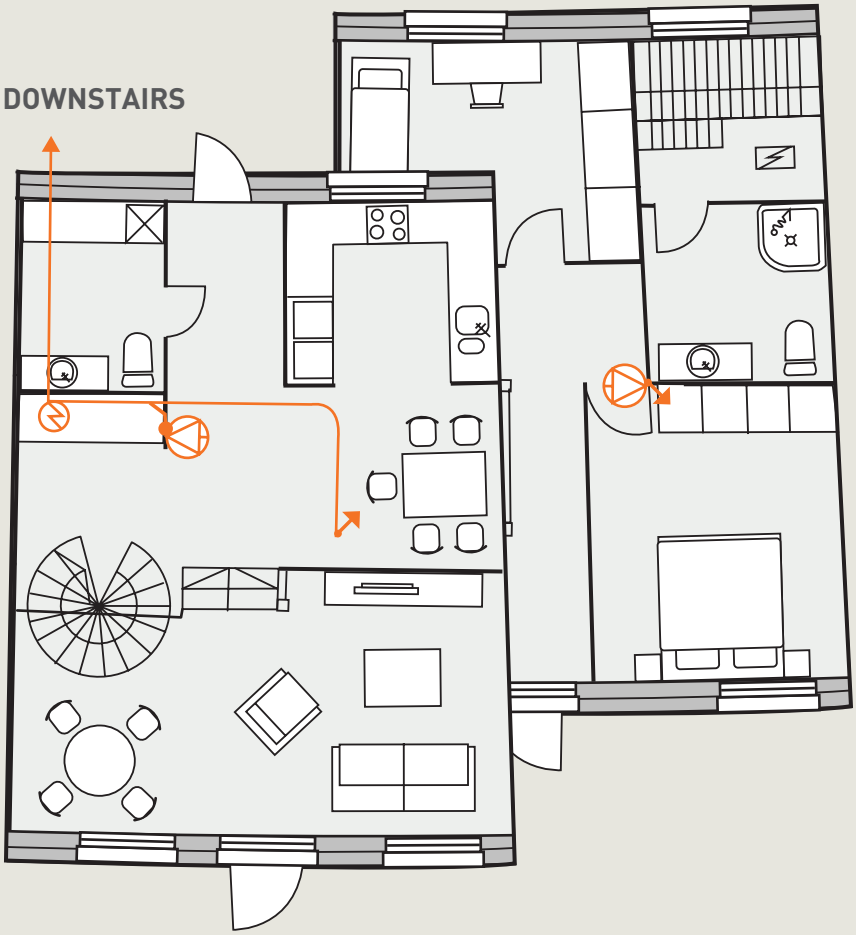


**DOWNSTAIRS**



**UPSTAIRS**

**DOWNSTAIRS**

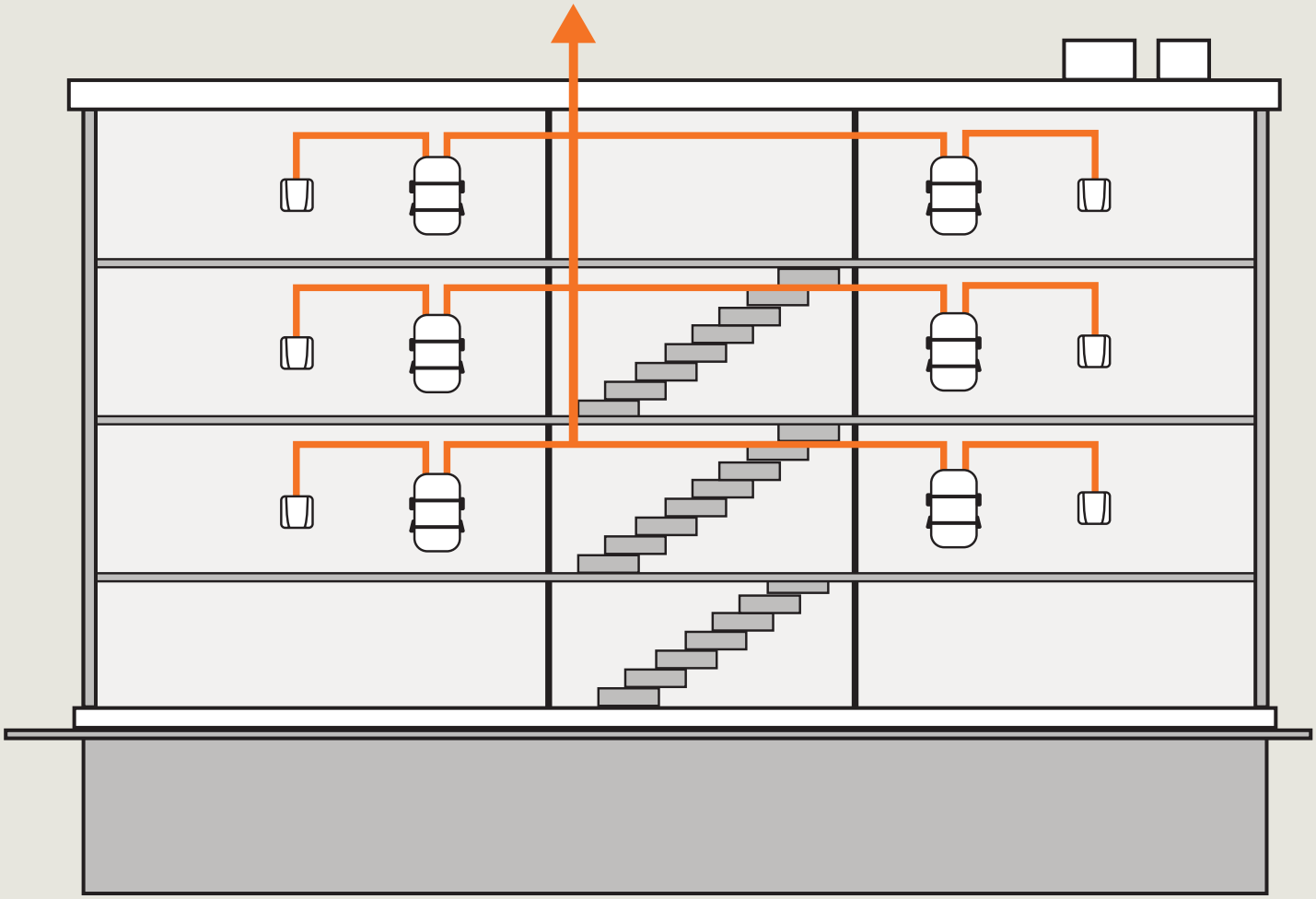


## ACCESSORIES:

- 120m pipe
- Elbow 90º 40 pcs
- Elbow 45º 16 pcs
- Branch 8 pcs
- Exhaust vent cap 8 pcs
- Silencer for exhaust air 8 pcs
- Wall inlet 16 pcs
- C-series wall bracket 8 pcs
- C30 8 pcs or DUO 8 pcs
- Cleaning equipment set 8 pcs

## FLATS

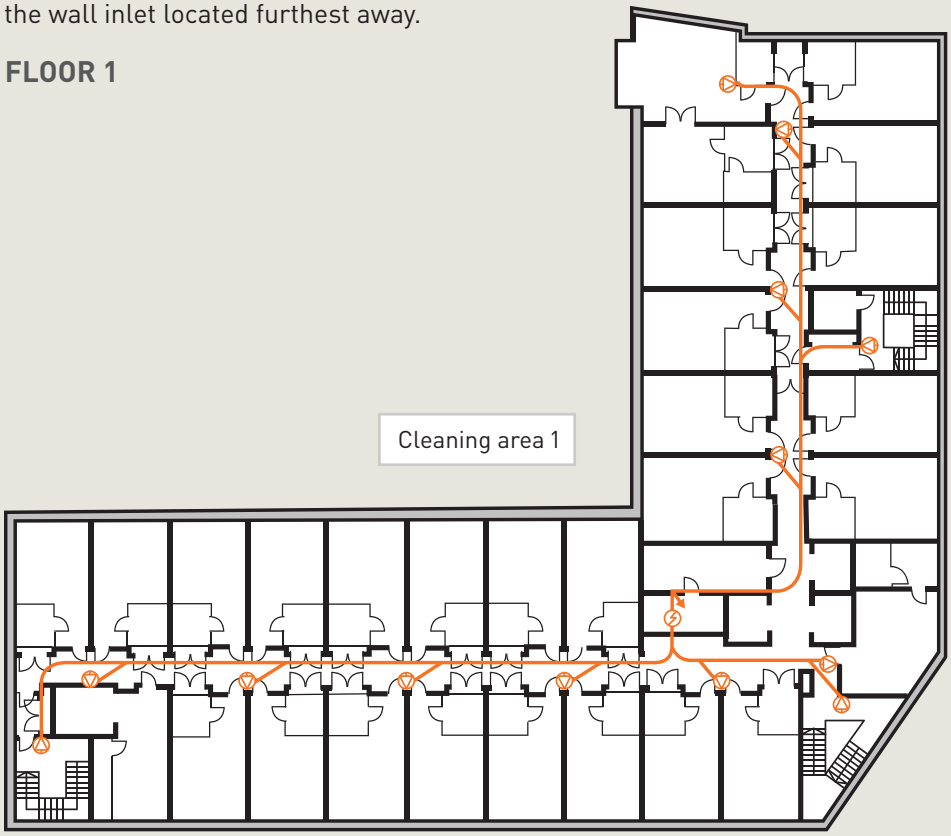
In flats, the central vacuum cleaner systems are designed according to the same principles as systems in detached houses, for example. It is possible to design a system that is dwelling-specific. The exhaust duct can be dwelling-specific or all flats can use one joint exhaust duct. In that case a central unit from C-series is needed. It has a built-in return valve on the exhaust side. Common fire regulations and instructions must be followed when designing the blow-out.



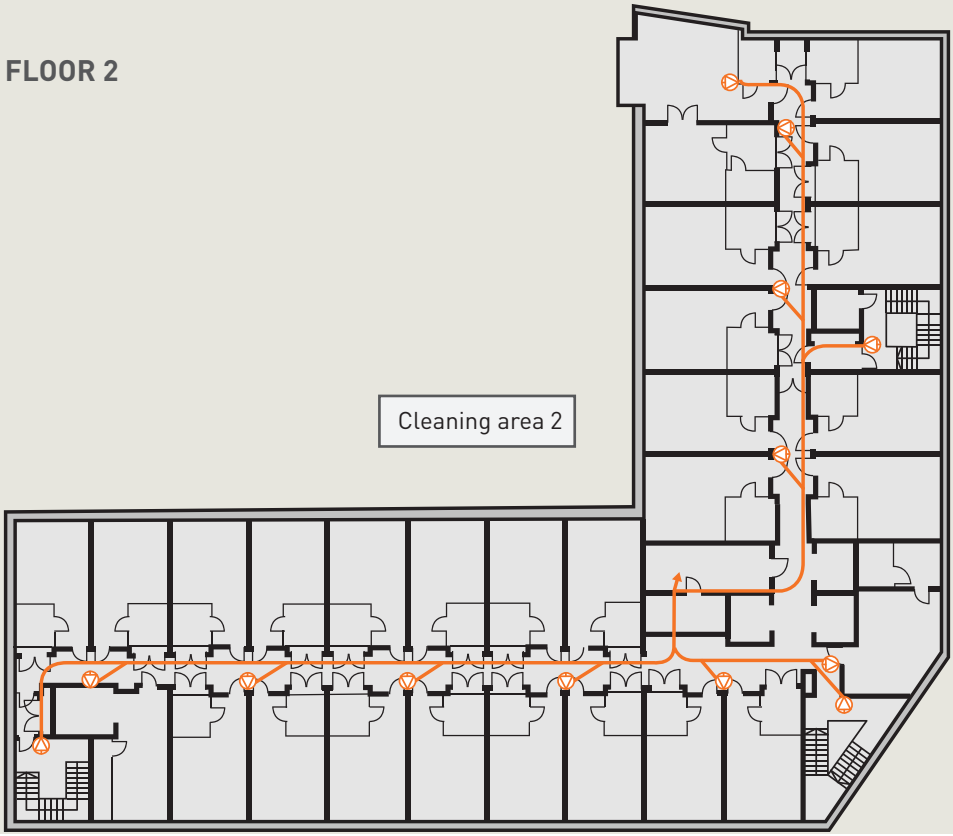
# HOTEL

The case example below describes the planning process for a Manta central vacuum cleaner system in a hotel. According to the same principles it is possible to make plans for systems in all professional spaces such as office buildings and nurseries. The basis for designing a system for many simultaneous users is the division of the areas into cleaning areas. Each cleaning area is cleaned by one user at a time, and all cleaning areas have their own piping which is connected to the manifold in the central unit. One central unit can be used by 1-3 simultaneous users depending on the maximum lengths of the pipelines from the central unit to the wall inlet located furthest away.

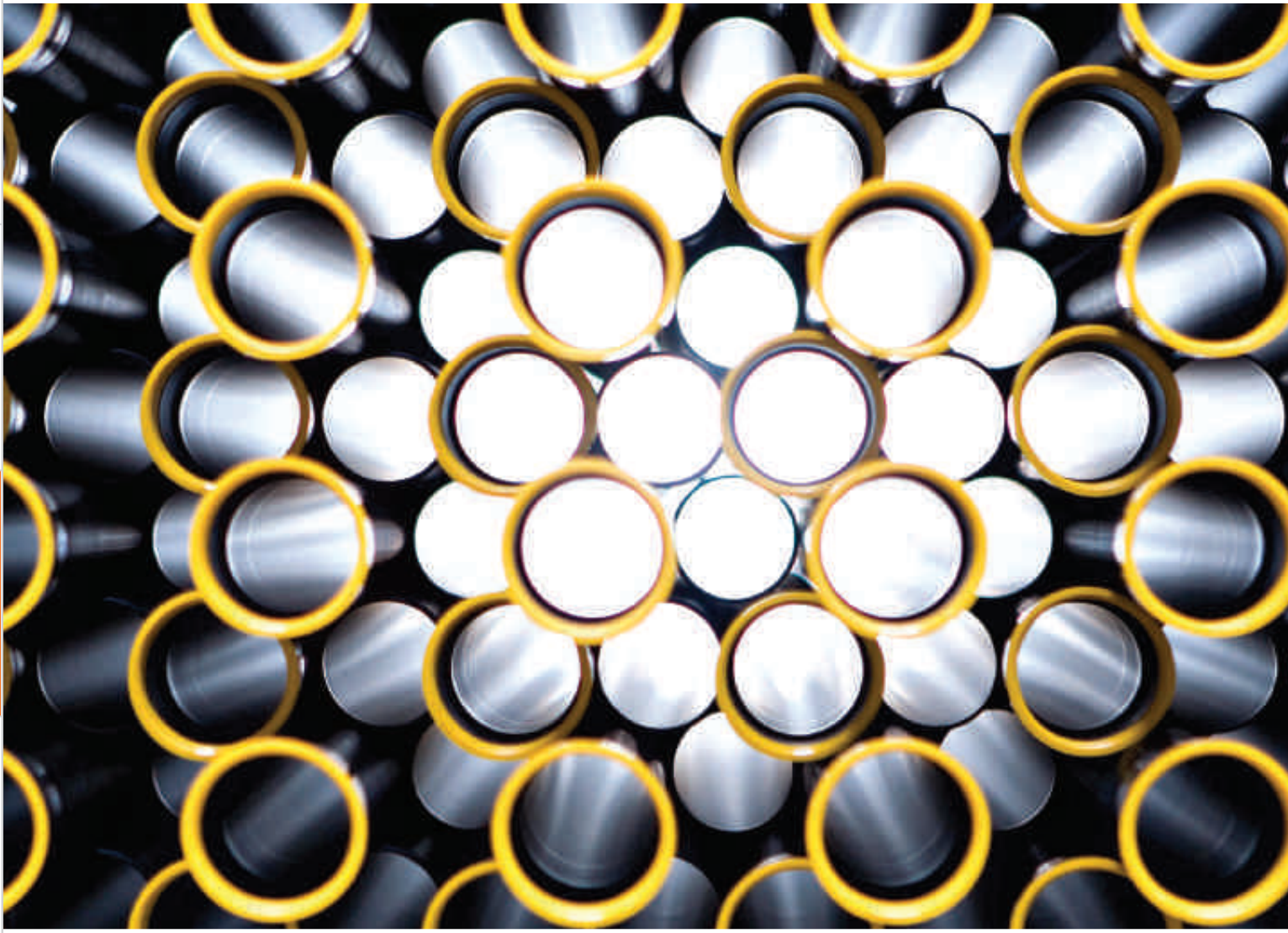
## FLOOR 1




## FLOOR 2



# PIPING SYSTEM



Allaway dust piping offers ready-made parts. After the easy design process, the piping is easily assembled without any need for glue or special tools. Optimally dimensioned elbow pieces, smooth and durable inner pipe surfaces, optimal pipe diameter and tight connections ensure that the Allaway system has the best possible flowing qualities on the market.

The pipes fit together seamlessly. There are several options for different types of installation projects.

The inner surface of the pipes is extremely smooth. All elbows are rounded and places that are exposed to wear are strengthened.

The piping system can be installed in houses of various ages and styles in separate casings on ceilings, cupboards or stair structures. Extending the piping system later on is just as easy.

## ALLAWAY CENTRAL VACUUM CLEANER

ø 44 mm

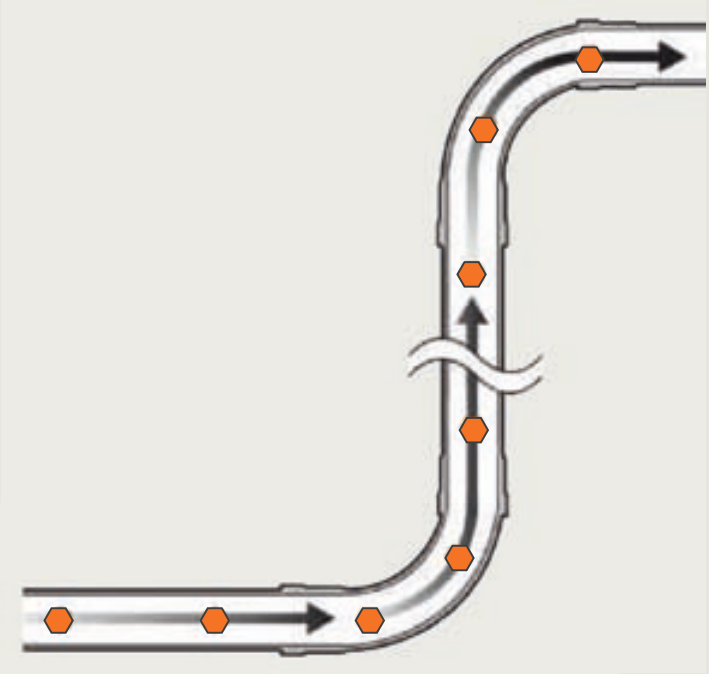


Figure 1. 44 mm-diameter piping guarantees optimal flow properties.

The inner surface of Allaway pipes is extremely smooth and durable.

Optimally dimensioned elbow pieces guarantee that rubbish and dust flow freely in the piping. All elbows are rounded and places that are exposed to wear are strengthened.

Tight seals guarantee that the pipes fit together seamlessly. There are several options for different types of installation projects.

# Flow rate

Allaway central vacuum cleaner systems use their own piping system that is specially designed for Allaway systems. The piping system is the result of a lengthy and thorough product development process. The Allaway dust piping system's outer diameter is 44 mm and the inner diameter is 40 mm. The piping is studied to be optimal in its flowing qualities. Flow technically optimally designed and dimensioned elbow pieces, smooth and durable pipes' inner surfaces, optimal pipe diameter and tight connections ensure the best possible flow qualities and blockage-free dust piping.

### ADVANTAGES OF THE 44 MM-DIAMETER PIPING

- The optimal pipe diameter, 44 mm, helps all rubbish flow effectively and guarantees the necessary dust flow velocity of 25 m/s.
- A 44 mm pipe is suitable for all walls with a structure made of wood, blocks or bricks and for different types of ceiling or floor structures, also in prefabricated houses.
- It is easy to cut the pipe into desired lenghts. Connecting muff can be used to connect the muffless pipes that have been cut. This minimises the loss of pipe.
- No glue or special tools are needed in installation.
- The material of the pipes is extremely durable.
- The functional elbow pieces guarantee that rubbish will not cause any blockages.
- Winter installation is also possible. Please note the possibility of thermal expansion as the temperature changes!
- There is no loss of suction power over the years.
- Solid and smooth inner surface - rubbish won't collect in places and cause blockages.
- Strengthened elbow pieces guarantee a long service life as they won't wear out.
- Piping is made of environmentally friendly recyclable material.

# Supporting the piping

A pipe clamp developed by Allaway enables several different ways for providing support. When supporting the piping, only use the Allaway pipe clamp and install the pipe clamp so that the pipe can move freely axially (in the longitudinal direction). Support the piping in a manner that allows axial thermal expansion and contraction (muff joints in particular should not be subject to extension strain as the piping contracts.) Only install the pipe clamps in stretches of pipe without bends, and at a sufficient distance from the muff joints to enable thermal expansion and contraction. The thermal expansion coefficient is approximately 0.1mm/m/°C). In order to allow for the movement of the pipe, only one pipe clamp is allowed near an elbow piece, as shown in the picture. The pipe clamp on the other side of the elbow piece must be at least 70cm from the elbow piece. No pipe clamps are installed on direct stretches of pipe shorter than 70cm.

## SUPPORTING METHODS

Figure 2. Pipe clamps can be attached when the pipe is in place. There is enough space for the screwdriver and the screw to manoeuvre round the pipe.

Figure 4. Enables attachment with screws at the centre of the support.

Figure 3. The pipe clamp can be attached by its sides with long screws. The pipe is not able to slide in the support as it locks the pipe in its place.

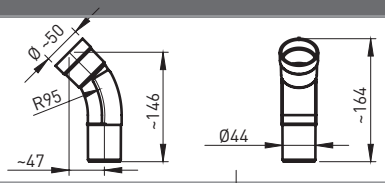
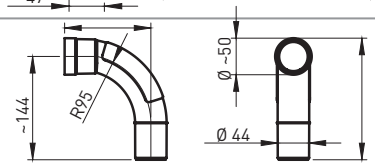
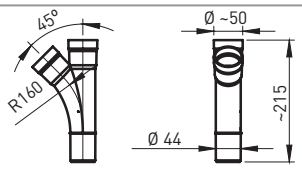
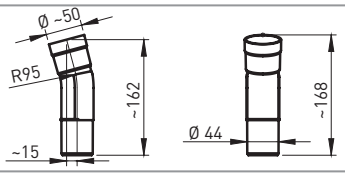
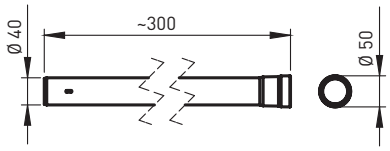
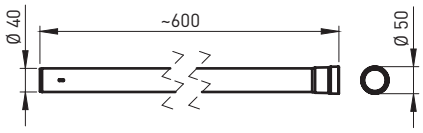
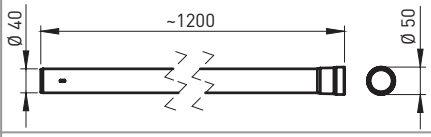
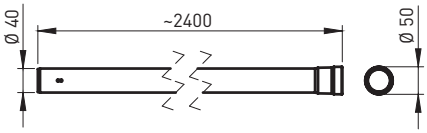
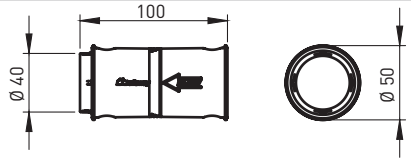
Figure 5. Pipe clamp attached with a screw at the centre. This installation method also enables the pipe to move in the longitudinal direction during thermal expansion, for example.

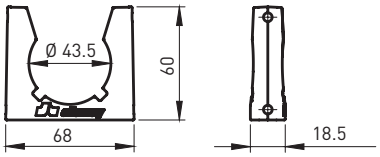
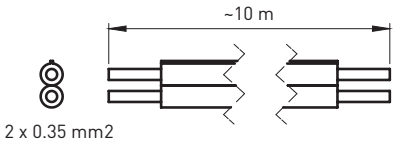
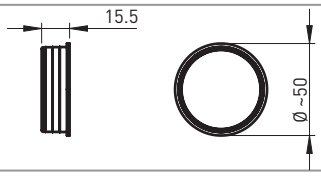
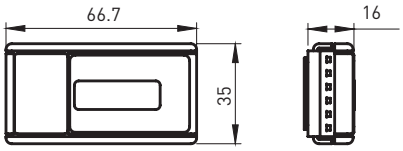
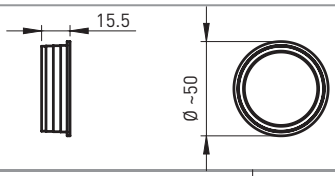
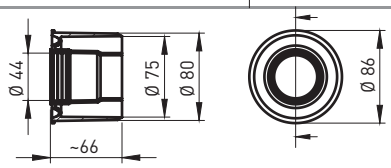
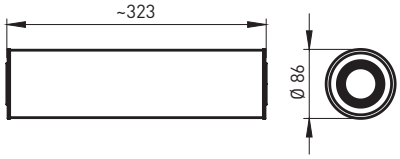
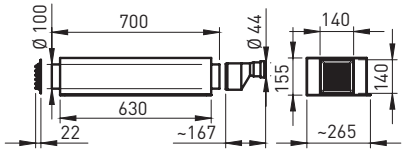
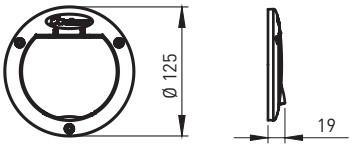
# PIPE PACKAGES

Figure 6. Allaway piping parts are sold as single components and in basic and additional pipe packages. Below is an example of one package. The contents of the package vary depending on the country.

| Example content | **PPK pipe package**<br>Product 80331<br>**Quantity** | **PPL additional pipe package**<br>Product 80381<br>**Quantity** | |
|---|---|---|---|
| Wall inlet Optima 100 | 3 | 1 | |
| 1.2 m pipe | 14 | 4 | |
| 0.6 m pipe | 8 | 3 | |
| Sealing yellow | 39 | 15 | |
| Elbow 45° | 6 | 2 | |
| Elbow 90° | 7 | 2 | |
| Y-branch | 2 | 1 | |
| Metal strip | 6 | 1 | |
| Exhaust valve | 1 | | |
| Start wire 30 m | 1 | | |
| Star wire 10 m | | 1 | |
| Pipe clip 3 in set | 1 | | |
| Exhaust pipe | 1 | | |

# Product list: Allaway dust piping 40/44 mm

| | | |
|---|---|---|
| |  | **Elbow 45º**<br>Product code 80525.<br>Inner diameter Ø 40 mm.<br>Outer diameter Ø 44 mm.<br>Muff outer diameter Ø 50 mm. |
| |  | **Elbow 90º**<br>Product code 80526.<br>Inner diameter Ø 40 mm.<br>Outer diameter Ø 44 mm.<br>Muff outer diameter Ø 50 mm. |
| |  | **Branch 45º**<br>Product code 80527.<br>Inner diameter Ø 40 mm.<br>Outer diameter Ø 44 mm.<br>Muff outer diameter Ø 50 mm. |
| |  | **Elbow 15º**<br>Product code 80528.<br>Inner diameter Ø 40 mm.<br>Outer diameter Ø 44 mm.<br>Muff outer diameter Ø 50 mm. |
| |  | **Pipe 0.3 m**<br>PP 80543 .<br>Inner diameter Ø 40 mm.<br>Outer diameter Ø 44 mm.<br>Muff outer diameter Ø 50 mm. |
| |  | **Pipe 0.6 m**<br>PP 80542 . PVC 80517.<br>Inner diameter Ø 40 mm.<br>Outer diameter Ø 44 mm.<br>Muff outer diameter Ø 50 mm. |
| |  | **Pipe 1.2 m**<br>PP 80541 . PVC 80516.<br>Inner diameter Ø 40 mm.<br>Outer diameter Ø 44 mm.<br>Muff outer diameter Ø 50 mm. |
| |  | **Pipe 2.4 m**<br>PP 80540 . PVC 80515.<br>Inner diameter Ø 40 mm.<br>Outer diameter Ø 44 mm.<br>Muff outer diameter Ø 50 mm. |
| | | **Pipe tab DBI-70 44m**<br>Product code 80521 |
| |  | **Connecting muff**<br>Product code 80295. |

| | | |
|---|---|---|
| |  | **Pipe clamp 25 pcs.**<br>Product code 80294.<br>**Pipe clamp 3 pcs.**<br>Product code 80293. |
| |  | **Low voltage lead 10 m** Product code 80940.<br>**Low voltage lead 20 m** Product code 80945.<br>**Low voltage lead 30 m** Product code 80950.<br>**Low voltage lead 100 m** Product code 80954. |
| |  | **Pipe sealing 15 pcs**<br>Product code 15170. |
| |  | **OI-indicator**<br>Product code 80805. |
| |  | **Adjustment coupling muff 41/44**<br>Product code 80933.<br>**Converter coupling muff 44/50**<br>Product code 80932. |
| |  | **Adjustment coupling muff 44/75/80**<br>Product code 80934. |
| |  | **Silencer for exhaust air**<br>Product code 80965. |
| |  | **Turbo exhaust silencer (includes blow-out grating)**<br>Product code 80791. |
| |  | **Exhaust vent cap**<br>Product code 80792. |
| | | **Low pressure meter**<br>Product code 80984. |

# WALL INLETS

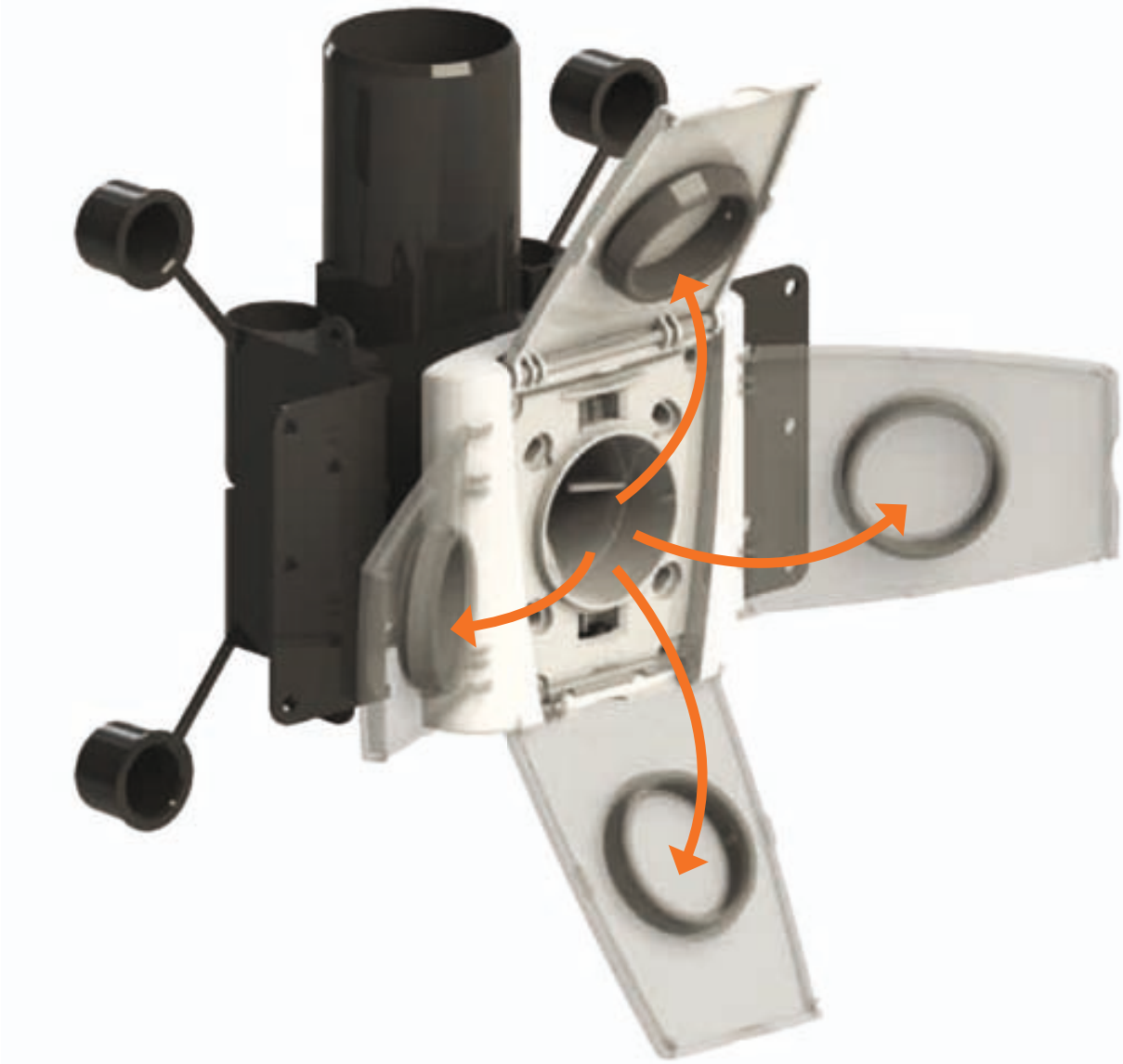
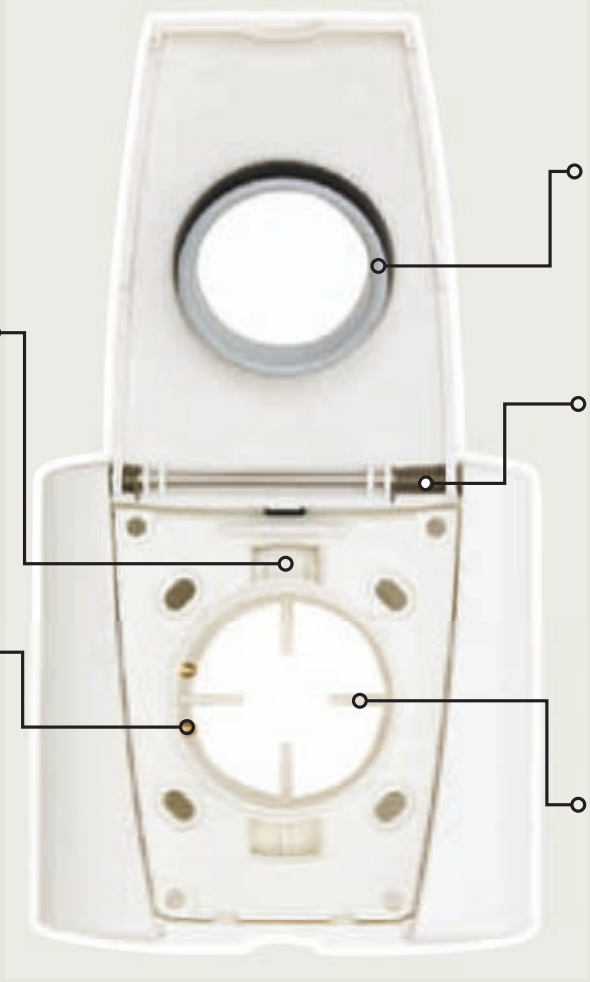


Figure 1. By using a mounting bracket, you can install the wall inlet cover so that it opens in a desired direction.

Allaway wall inlets are designed to fit perfectly to the Allaway central vacuum cleaner system's piping and cleaning equipment. The Optima wall inlet boasts many innovative properties that have helped to enhance the suction power and the usability of the vacuum cleaner.

# Cover assemblies



Cover seals ensure that the cover is not leaking while other wall inlets are used for vacuum cleaning.

Suction hose muffs become tightly sealed on both sides of the inlet and keep the suction hose tightly attached to the inlet. It is easy to release the hose by lightly pressing the suction hose muff's lock.

The cover is equipped with a steel spring and it is easy to open and close. You can lock the cover by fully opening it upwards. When the suction muff clicks, this indicates that the muff is securely attached to the wall inlet. The steel spring in the cover ensures the airtightness of the wall inlets.

In suction hose assemblies equipped with a handle starter you can start and stop cleaning simply by using the handle.

Allaway wall inlets are equipped with patented catchers that prevent large items such as children's building blocks from entering the suction pipe system. All rubbish and other items that penetrate the catchers travel all the way to the central unit's dust bag.

Figure 2. Allaway wall inlets are equipped with patented catchers that prevent large items such as children's building blocks from entering the suction pipe system.

Figure 3. The starting circuit operates at a voltage of approximately 24V. The low voltage lead is attached to each wall inlet and to the sweep slot connectors, where installed.

Figure 4. There are sealing grooves behind the wall inlet. These can be shortened according to the thickness of the wall material. If the wall material is thicker, it is possible to use a separate extension in between the mounting bracket and the cover assembly.

# Optima mounting bracket

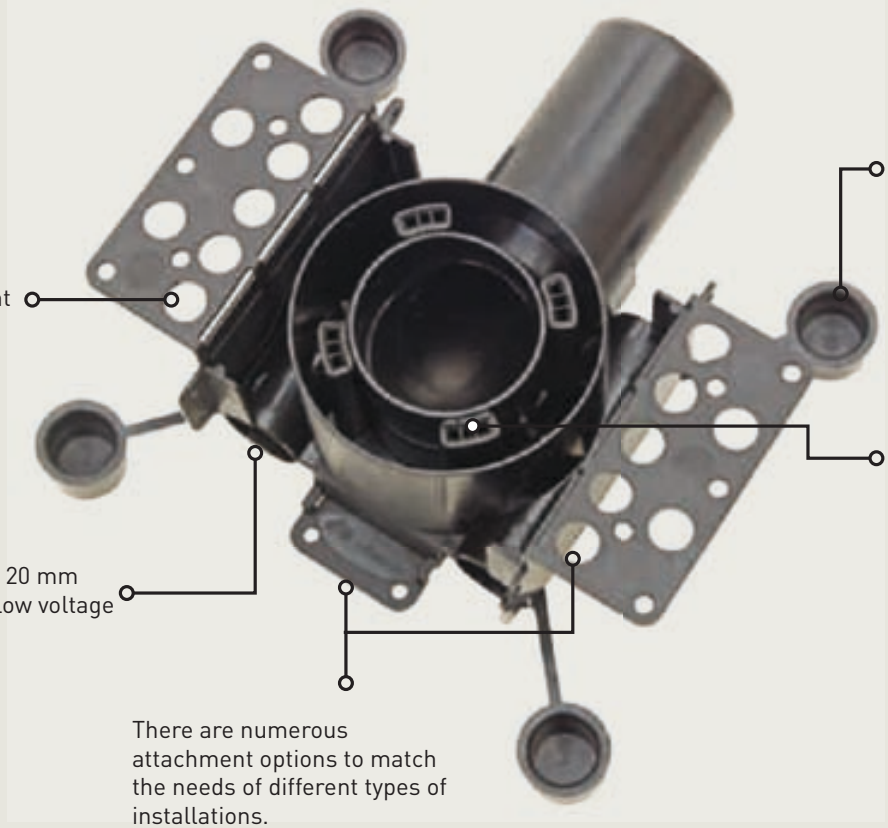

Cuttable attachment brackets
Protective plug, used also as a muff for 16 mm protective tubing
By using several attachment holes the cover assembly is attached straight
Enables the use of a 20 mm protective tubing in low voltage leading
There are numerous attachment options to match the needs of different types of installations.

Figure 5. The Optima mounting bracket is easy and quick to install in all wall materials as its structure enables several possibilities for installation. Due to the symmetry of the mounting bracket, the cover can be opened in any direction.

Figure 6. The sharpest elbow of the entire piping system is directly behind the wall inlet. It prevents long items such as pencils from entering the piping system.

# Installation of the Optima wall inlet

Wall inlets are normally installed in partition walls of wood or metal structures, in cast or masoned partition walls of bricks and in cupboards and support structures. When installing in a concrete cast (floor), inside or in a groove of a block or a brick wall, the connections must be taped and the pipes must be attached so that they cannot move. Low voltage leads should run inside protective tubing in cast structures.

## BRICK WALL INSTALLATION

Figure 7. When installing a wall inlet to a brick wall, the bricks must be split or a groove must be made for the dust pipe. A low voltage lead runs to the wall inlet inside protective tubing. If the wall is coated, it can be completely masoned. For the installation of the pipe, a groove is sawn into the wall on the side of the wall to be coated. The space for the pipe can also be left during masonry. The dust pipe, low voltage lead, protective tubing, mounting bracket, and the protective cover are installed in the finished groove. Use filler to fill the groove up to the level of the wall surface.

## SLAB WALL INSTALLATION

Figure 9. When installing in a slab wall, the mounting bracket is installed to the frame of the wall with a nail or a screw. The best possible support is achieved by installing the mounting bracket on both sides using a 500 mm additional frame. Slab wall installation is also possible without the mounting bracket.

## INSTALLATION THROUGH A WALL

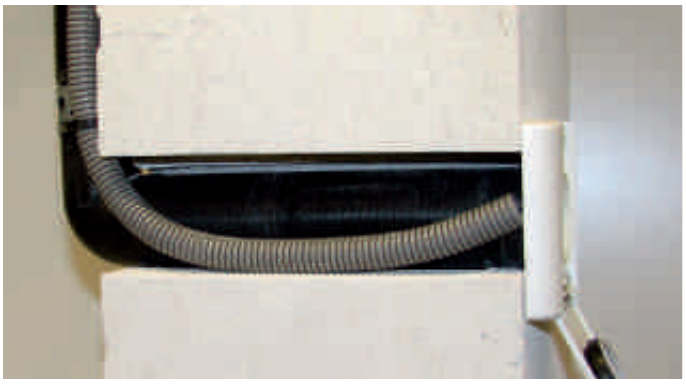
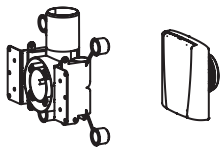
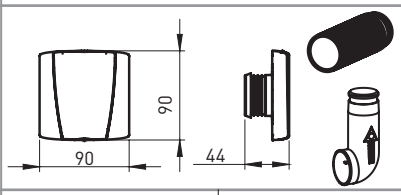
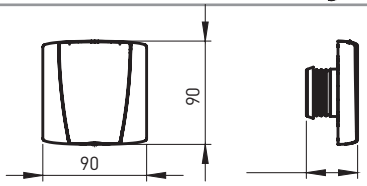
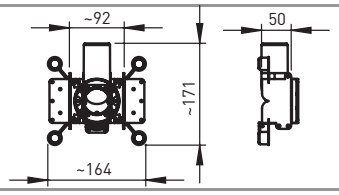
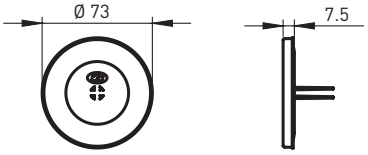
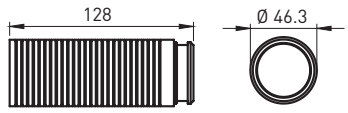
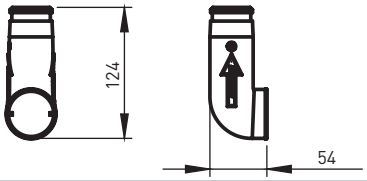
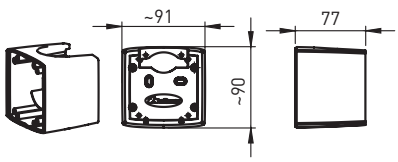


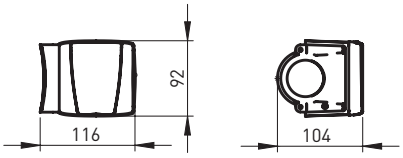
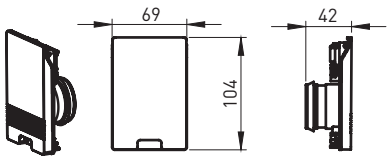
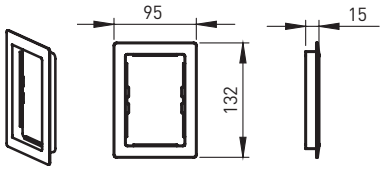
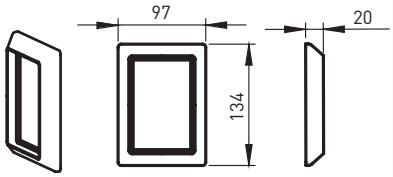
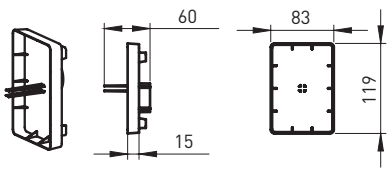
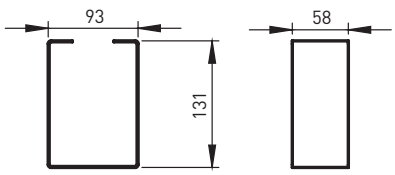
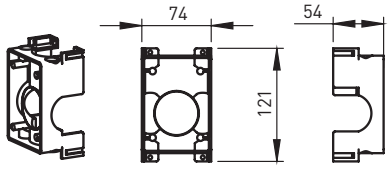
Figure 8. When a dust pipe is connected to the wall inlet on the other side of the partition wall, a hole with a diameter of 50 mm is drilled through the wall for the installation of the wall inlet. The wall inlet's elbow coupling is inserted into the end of the dust pipe. If the wall inlet is installed through thick walls, several extensions can be used successively. The length of the extension is 13 cm. Wall inlet extensions are used in installations through thick walls.

## SURFACE INSTALLATION

Figure 10. Box for surface installation (accessory) is used in the surface installation of the piping. The box for surface installation is mounted to the wall. The elbow coupling is attached to the dust pipe and the dust pipe is pushed up to the sharp 90° angle of the elbow coupling. Dust pipe is inserted into the box. Low voltage leads are attached to the cover assembly and the cover assembly is installed to the box.

# Product list: Optima and Classic wall inlets

| | | |
|---|---|---|
| |  | **Optima wall inlet, white**<br>Product code 80160.<br>The package includes the mounting bracket, protective cover, white Optima cover assembly. |
| |  | **Wall inlet Allaway Optima: wall inlet, inlet elbow, extension piece**<br>Product code 80194. |
| |  | **Optima cover assembly**<br>**Antique brass.** Product 80186.<br>**Graffiti.** Product 80185.<br>**Black.** Product 80183.<br>**Silver.** Product 80184.<br>**White.** Product 80178. |
| |  | **Optima mounting bracket**<br>Product code 80223.<br>The Optima mounting bracket is easy and quick to install in all wall materials. |
| |  | **Protective cover, round**<br>Product code 80224. |
| |  | **Extension**<br>Product code 80214.<br>When the coupling muff of the cover assembly does not reach to the elbow coupling, an extension is used. The length of the extension is 13 cm. |
| |  | **Wall inlet elbow coupling**<br>Product code 80122.<br>The classic wall inlet is always followed by elbow coupling to prevent pencils and other long pieces from entering to the pipe system. |
| |  | **Box for surface installation**<br>Product code 80222. |
| | | **Pipe tab DBI-66**<br>Product code 80522. |

| | | |
|---|---|---|
| | | **Wall inlet surface installation Optima**<br>Product code 80164. |
| |  | **Wall inlet DUO**<br>Product code 80170.<br>You can use Duo from one wall inlet or add dust piping to the wall inlet and then install several wall inlets. |
| |  | **Classic wall inlet.**<br>**Inlet white plastic; reed complete.** 80157.<br>**Inlet white plastic; no reed complete.** 80158.<br>**Inlet white plastic; microswitch complete.** 80150.<br>**Inlet cover white; plastic reed.** 80176.<br>**Inlet cover white; no reed.** 80196.<br>**Inlet cover white; plastic microswitch.** 80175. |
| |  | **Classic frame (raised installation)**<br>Product code 80195.<br>Outer measurements from the front: 13.3 cm x 9.6 cm. Inner measurements from the front: 10.5 cm x 7.0 cm |
| |  | **Classic frame (flush installation)**<br>Product code 80205.<br>Outer measurements from the front: 13.5 cm x 9.8 cm. Inner measurements from the front: 10.56 cm x 7.0 cm |
| |  | **Protective cover for flush installation**<br>Product code 80216.<br>**Protective cover for raised installation**<br>Product code 80215. |
| |  | **Socket for surface installation plastic, white**<br>Product code 80219. |
| |  | **Mounting bracket**<br>Product code 11031.<br>**Mounting bracket + inlet elbow**<br>Product code 80173. |

# Product list: RST wall inlets

RST wall inlets are only suitable for use with Allaway handle-started cleaning equipment or professional cleaning equipment equipped with Reed muffs.

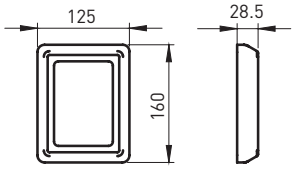
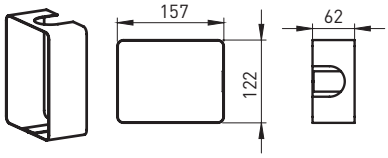
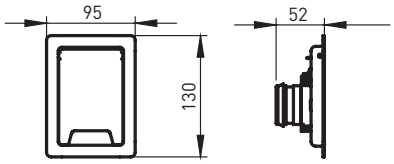
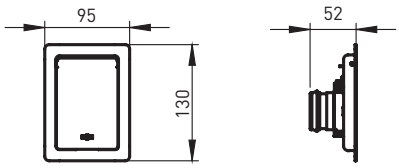
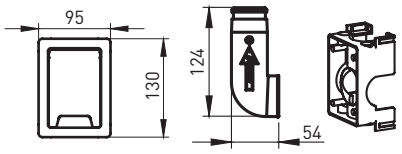
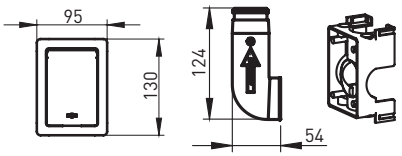
| | | |
|---|---|---|
| |  | **Stainless steel inlet frame lifted installation chrome**<br>Product code 80277.<br>**Stainless steel inlet frame lifted installation white**<br>Product code 80278. |
| |  | **Socket for surface installation stainless steel chrome.** 80218.<br>Sockets include inlet frames.<br>**Socket for surface installation stainless steel white.** 80220.<br>Sockets include inlet frames. |
| |  | **Installation cover stainless steel chrome**<br>Product code 80274.<br>**Installation cover stainless steel white**<br>Product code 80281. |
| |  | **Installation cover stainless steel chrome with lock**<br>Product code 80273.<br>**Installation cover stainless steel white with lock** Product code 80282. |
| |  | **Wall inlet stainless steel complete reeds on/off chrome**<br>Product code 80259. |
| |  | **Wall inlet stainless steel complete reeds on/off chrome with lock**<br>Product code 80258. |

Figure 11. The stylish and durable stainless steel inlets can be surface mounted using separate surface mounting equipment. Mounting is also possible at the floor level.

# Product list: sweep slots

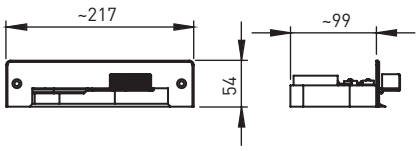
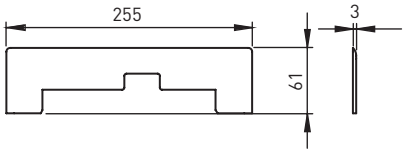
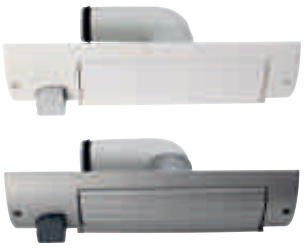
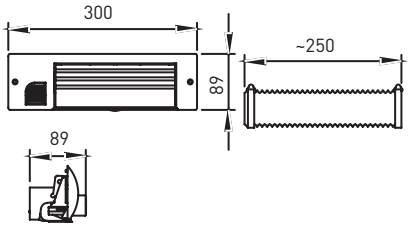
| | | |
|---|---|---|
| |  | **Sweep slot, white**<br>Product code 81009.<br><br>**Sweep slot, black**<br>Product code 81034. |
| |  | **Sweep slot RST Covering panel**<br>Product code 80289.<br><br>Suitable for products 81009 and 81034. |
|  |  | **Allaway sweep slot Europe, white**<br>Product code 81234<br><br>**Allaway sweep slot Europe, grey/silver**<br>Product code 81235. |

Figure 12. The sweep slot is easy to install to the support structures of kitchen furniture, for example. The sweep slot turns on automati cally when the slot is opened. It is particularly handy in the kitchen and in other spaces that need regular cleaning.

# CENTRAL UNITS

Allaway central units are suitable for every size of home and every type of installation space. A-series is a traditional central unit line that can be installed in warm storage spaces or utility rooms. C-series can be installed indoors, in places such as inside the cleaning cupboard or in the bathroom. Allaway's tiny Duo is especially well-suited for installation in flats and terraced houses, in holiday homes or even in motor homes and boats. Due to its size and shape it can be placed almost anywhere. Seamless steel frames ensure a non-resonant operating noise, durable and fire-safe structure and long lifespan for the C and A-series. As steel has a long lifespan and it is recyclable, it is an ecological frame material.

# Selecting the central unit

Several factors, such as the location of the central unit and the specific features of the vacuum cleaned space affect the selection of the central unit type. The selection of the model is dependent on the length of the dust piping system, i.e. the distance between the central unit and the wall inlet located furthest away. The central unit model's name indicates the maximum distance in a numerical value, for example A 30 A rough estimate is that the A 30 model, for example, is suitable for a space in which the distance from the central unit to the wall inlet furthest away is under 30 metres.

| Feature | C-series | A-series | V-series | Duo | Manta |
|---|---|---|---|---|---|
| For domestic use | X | X | X | X | |
| For professional use | | | | | X |
| Metal-framed | X | X | | | X |
| Metal/Plastic-framed | | | X | | |
| Plastic-framed | | | | X | |
| LCD screen | (C40 LCD) X | (A40 LCD) X | | | |
| Hidden pipe installation is possible | X | | | | |
| Installation in a cupboard is possible | X | | | X | |
| Splash proof | (Not C40 LCD) X | (Not A40 LCD) X | | | |
| Possibility to use either with or without the dust bag (accessory) | X | X | X | (Necessary) X | |
| Energy efficient | (C40) X | (A40) X | | | |
| Possibility to use several wall inlets simultaneously (more than one cleaner) | | | | | (Not 3000) X |
| Special installation sites: leisure venues, boats, buses, mobile homes | | | | X | |
| Installation of exhaust air is possible in the same exhaust duct (for example in flats) | X | | | | |
| Backflow valve (enables, among other things, the use of one joint exhaust air duct) | X | | | | X |
| Overheat protector | X | X | X | X | X |
| Overload protector | X | X | X | X | X |

# Operation of the central unit

## DUST FLOW

Regardless of their type, the Allaway central units all share a similar structure. The central units consist of a turbine, dust guide, filter, dust container and a protective cover. Each central unit type comes with special features specifically designed for each model. The figure below shows the dust flow in a central unit.

## TURBINE

The turbine is firmly attached from above and below to the turbine housing that protects the turbine. High quality sealing reduces the vibration.

The dust guide is located in the central casing of the central unit. It guides the dust tangentially from the inlet coupling down to the central container by its edges. The air guide protects the filter and prolongs its lifespan.

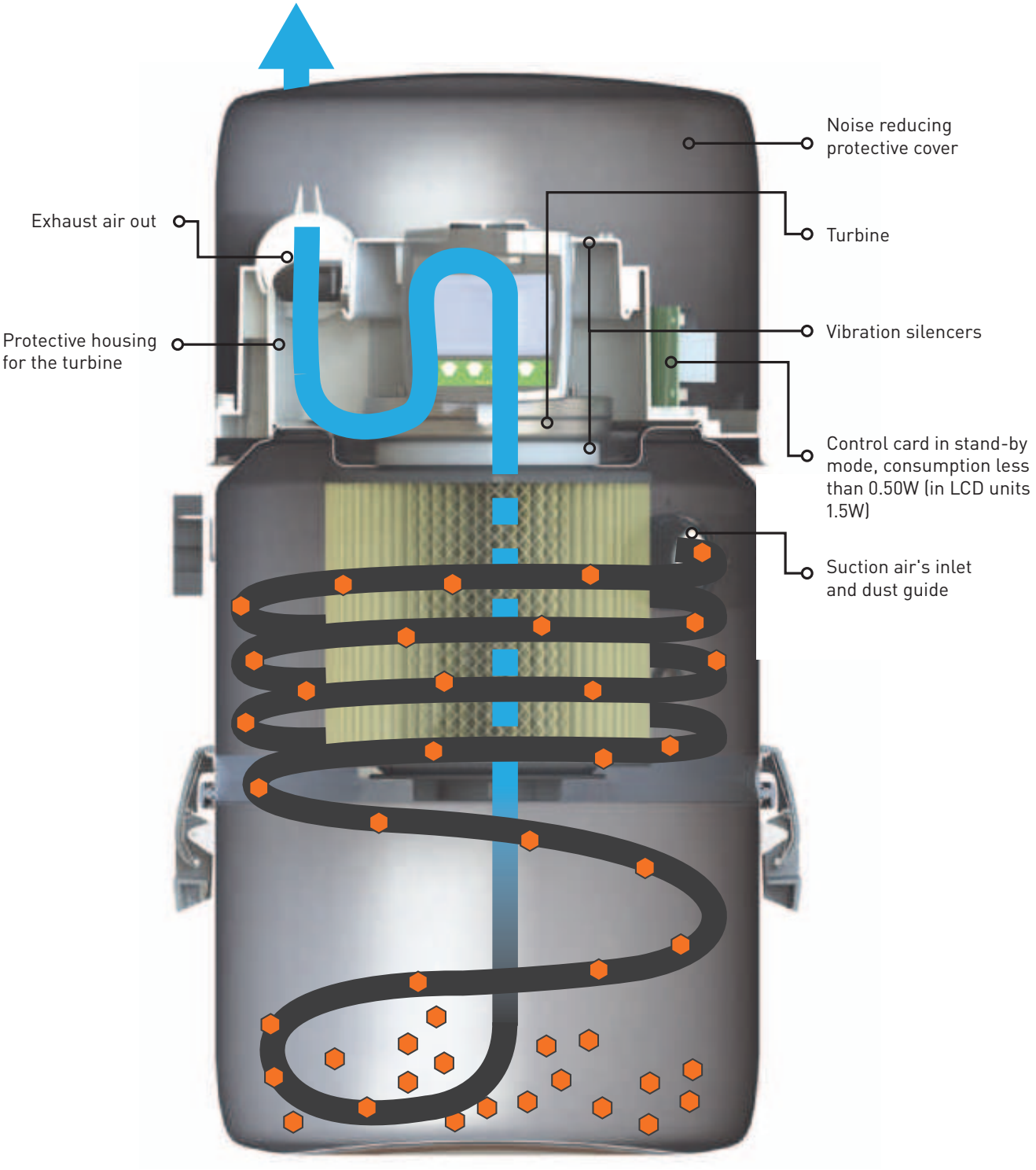

Noise reducing protective cover
Exhaust air out
Turbine
Protective housing for the turbine
Vibration silencers
Control card in stand-by mode, consumption less than 0.50W (in LCD units 1.5W)
Suction air's inlet and dust guide

Figure 1. The deep drawing technique ensures that Allaway's central units are airtight and seamless.

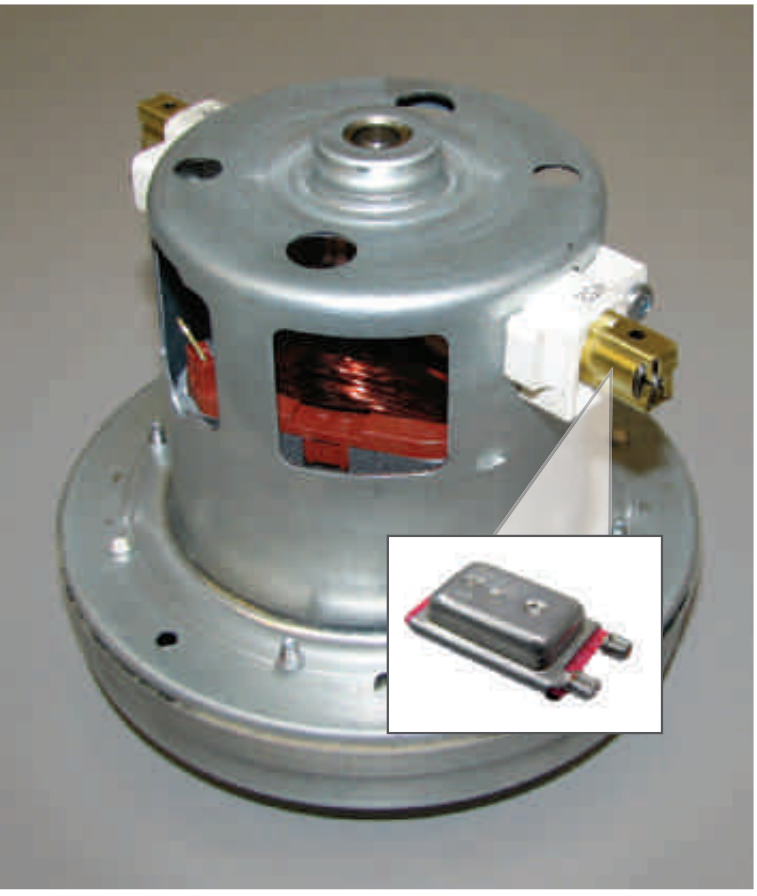


Figure 2. Overheat protector protects the turbine motor and prevents it from breaking down.

## MANUFACTURING TECHNIQUE

Allaway's central units are manufactured with deep drawing technique. Deep drawing is a technique in which the moulded material is simultaneously drawn and punched from two opposite directions.

The deep drawing technique ensures that Allaway's central units are airtight, vibration-free and seamless and their structure is solid and rigid.

## OVERHEAT PROTECTOR

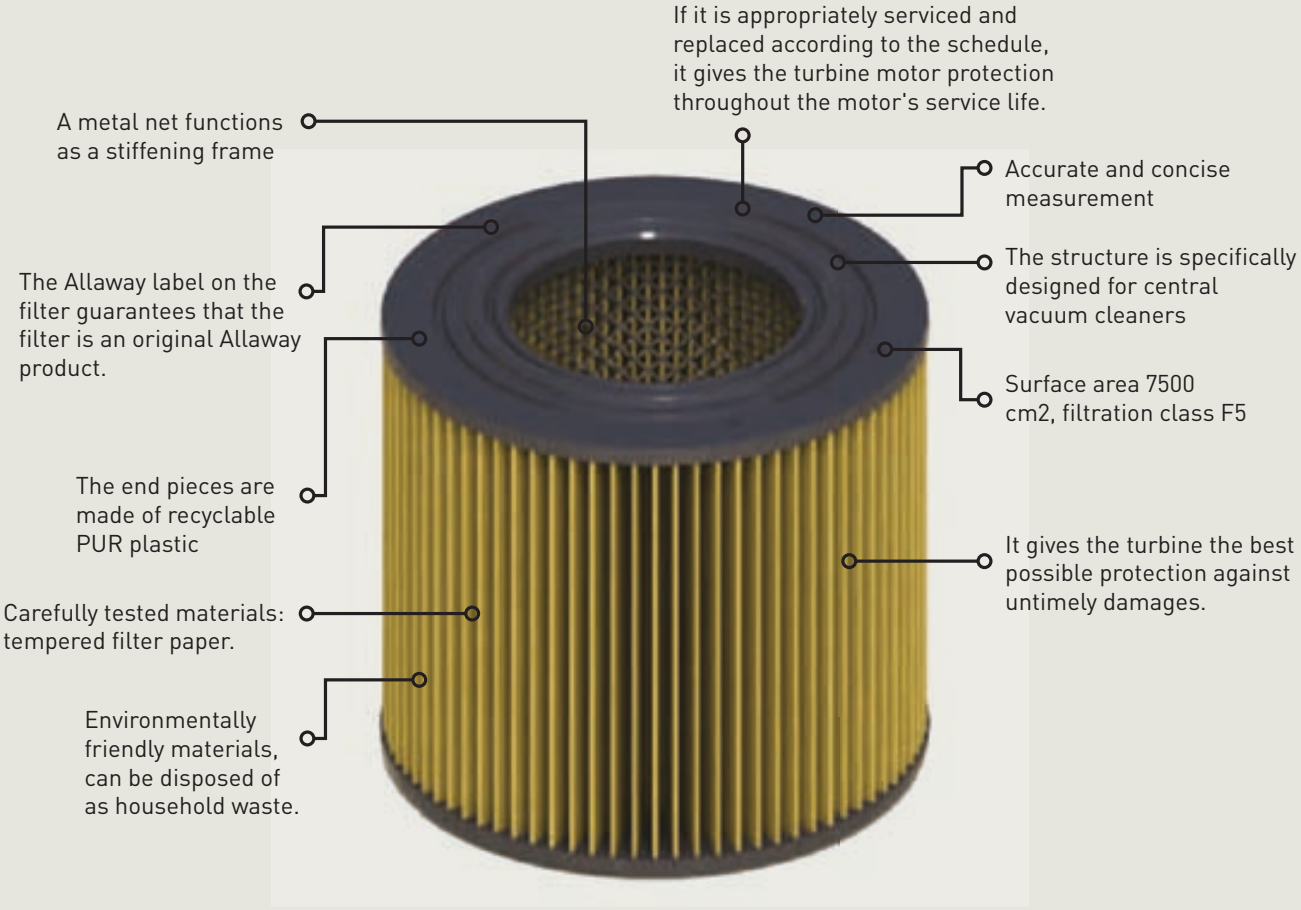
The overheat protector protects the turbine motor of the central unit from overheating by monitoring the temperature of the air that flows through the turbine motor and the temperature of the electric motor. The overheat protector stops the machine if it overheats, thus preventing it from breaking down. The overheat protector used by Allaway has been tested in real-life operational circumstances, and its operating temperature has been carefully chosen against the properties of the used turbine and the machine. The overheat protector will be reversed automatically after approximately 20 minutes. In addition, the Sonic model is equipped with a separate heat protector located outside the turbine motor. When this heat protector is turned on, the machine stops and a signal illuminates on the control panel.

## OVERLOAD PROTECTOR

The overload protector switches off the motor's power in case of any disturbances. The overload operator is a special fuse which is rated according to the voltage used by the electric motor in different operational conditions. The need for a much higher current during the start-up of the motor has also been accommodated by the rated voltage of the fuse.

An overload protector that has been tripped is not automatically reset; it needs to be replaced with a new one by an authorised Allaway service dealer. When replacing the overload protector, the reason for the tripping must be examined and the problem must be fixed. The same applies for other possible damage.

## FILTERS


If it is appropriately serviced and replaced according to the schedule, it gives the turbine motor protection throughout the motor's service life.
A metal net functions as a stiffening frame
Accurate and concise measurement
The Allaway label on the filter guarantees that the filter is an original Allaway product.
The structure is specifically designed for central vacuum cleaners
Surface area 7500 cm2, filtration class F5
The end pieces are made of recyclable PUR plastic
It gives the turbine the best possible protection against untimely damages.
Carefully tested materials: tempered filter paper.
Environmentally friendly materials, can be disposed of as household waste.

### FINE FILTER

The central unit is equipped with a fine filter that protects the turbine from dust. The high quality filter is made up of several elements: the optimal number of lamellas, the support structure in the frame of the inner part, material of the ends, and the attachment mechanism. The service life of the filter varies depending on the usage, but it is at least one year for normal household use. The filter is easy to clean with light brushing. The filter should be changed if it is damaged or blocked. When cleaning the filter, note that it must not be cleaned with compressed air or tamped clean.

Allaway's selection also offers a washable polyester filter. A washable filter is an ecological choice as its lifespan is several years.

Figure 3. The filter cover makes the maintenance of the fine filter easier and prolongs its service life. The filter cover is particularly handy when used with the washable fine filter.

Figure 4. The air guide directs the air flow away from the filter. This prolongs the lifespan of the filter.

Figure 5. A washable polyester filter is an ecological choice.

# MICROFIBRE DUST BAGS

Allaway central units can also be used with dust bags. A dust bag must be used with the Duo. In other models it is optional. When using a dust bag, the filter remains cleaner, the changing interval of the filter is prolonged considerably and the service operations for the central unit are more hygienic.  It is especially recommended that a dust bag is used by families with pets. Allaway dust bags are manufactured from high quality microfibres. Installation of the dust bag is easy, and it can also be installed in the central unit retrospectively.

**MICROFIBRE DUST BAG:**

- Made of microfibre.
- Does not work as a breeding ground for bacteria or mycelia.
- Due to its multi-layered structure, the maximal suction power is not lost.
- Durable.
- Layers prevent the dust particles from penetrating the dust bag.

Figure 6. With the help of the installation kit, the dust bag is easily installed in the central casing of the central unit. No specific tools are required in the installation. The installation kit can be inserted or removed from the machine at any stage.

## DUST BAGS FOR DIFFERENT CENTRAL UNITS

| | | | |
|---|---|---|---|
| | **Dust bag installation kit A-series**<br>Product code 81115.<br><br>Dust bag installation kit for A-series, V6 and EE-20.<br><br>The dust bag installation kit includes:<br>• Microfibre dust bag 20 litres, 2 pcs<br>• Suction coupling<br>• Bag holder | | **Dust bag installation kit C-series**<br>Product code 81114.<br><br>Dust bag installation kit for C-series and V3 and V4.<br><br>The dust bag installation kit includes:<br>• Microfibre dust bag 13 litres, 2 pcs<br>• Suction coupling<br>• Bag holder |
| | **Dust bag A-series 20 litres, microfibre**<br>Product code 80688.<br><br>Sales package 2 pcs. | | **Dust bag C-series 13 litres, microfibre**<br>Product code 80689.<br><br>Sales package 2 pcs. |
| | **Dust bag, paper**<br>Product code 80693.<br><br>CA-CXA machines<br>5 pcs/package | | **Dust bag Duo 10 litres, microfibre**<br>Product code 80687.<br><br>Always use a dust bag in<br><br>Duo.<br>Sales package 2 pcs. |

## SEALINGS AND LOCKS

### SEALINGS

The sealing between the dust canister and the central casing is attached to the central casing which makes the emptying of the dust canister easier. Dust that falls off on the floor does not gather on the surface of the sealing. This makes the structure airtight. The Allaway designed sealing that fits seamlessly into the central unit guarantees that the suction power is never lost and reduces the noise levels.

### LOCKS

The dust canister is easy to empty. When you open the quick-release lock, the canister hangs safely on the locks, allowing you to remove it for emptying.

# LCD SCREEN

The LCD screens are available in the Allaway C40 and A40 models. The screen, which is integrated into the central unit, tells you when to empty the rubbish container and gives you information on the condition of the filter, upcoming regular maintenance of the central unit and time spent vacuuming, for example. You can adjust the screen to display data based on your vacuuming behaviour.

## BASIC SCREEN

The basic screen shows the temperature on the left, the usage hours in the centre and the dust bag/canister level on the right. The hour indicator in the upper right-hand corner shows the total time spent vacuuming since the dust container was last emptied or the dust bag was last replaced.

## THE MAINTENANCE INTERVAL OF THE DUST BAG/ CONTAINER

The option to select a maintenance interval for the dust canister or the dust bag makes it possible for each household to pick a maintenance interval that is suitable for them. When the smallest column is selected, the dust canister's or dust bag's bar in the LCD screen is fully lit after 42 hours of use. If the household is large or if there are pets in the household, the column on the right should be selected. The amount of usage hours needed for the fill-up from left to right: 42 hrs, 31 hrs, 22 hrs, 13 hrs, 5 hrs.

## THE MAINTENANCE NEED FOR THE FILTER

After 200 hours of usage, the LCD screen informs the user of the need to tend to the filter. At this point the filter should be cleaned or changed.

## THE FILL-UP OF THE DUST BAG/CONTAINER

The LCD screen shows how many hours have passed since the dust canister or dust bag was last emptied. The usage hours after the last emptying are shown in the top right-hand corner.

## MAINTENANCE OF THE CENTRAL UNIT

The LCD screen also informs about the maintenance. The upper figure shows the usage hours and the lower figure shows the amount of usage hours after which maintenance should be performed. Regular maintenance is performed by authorised Allaway service dealers.

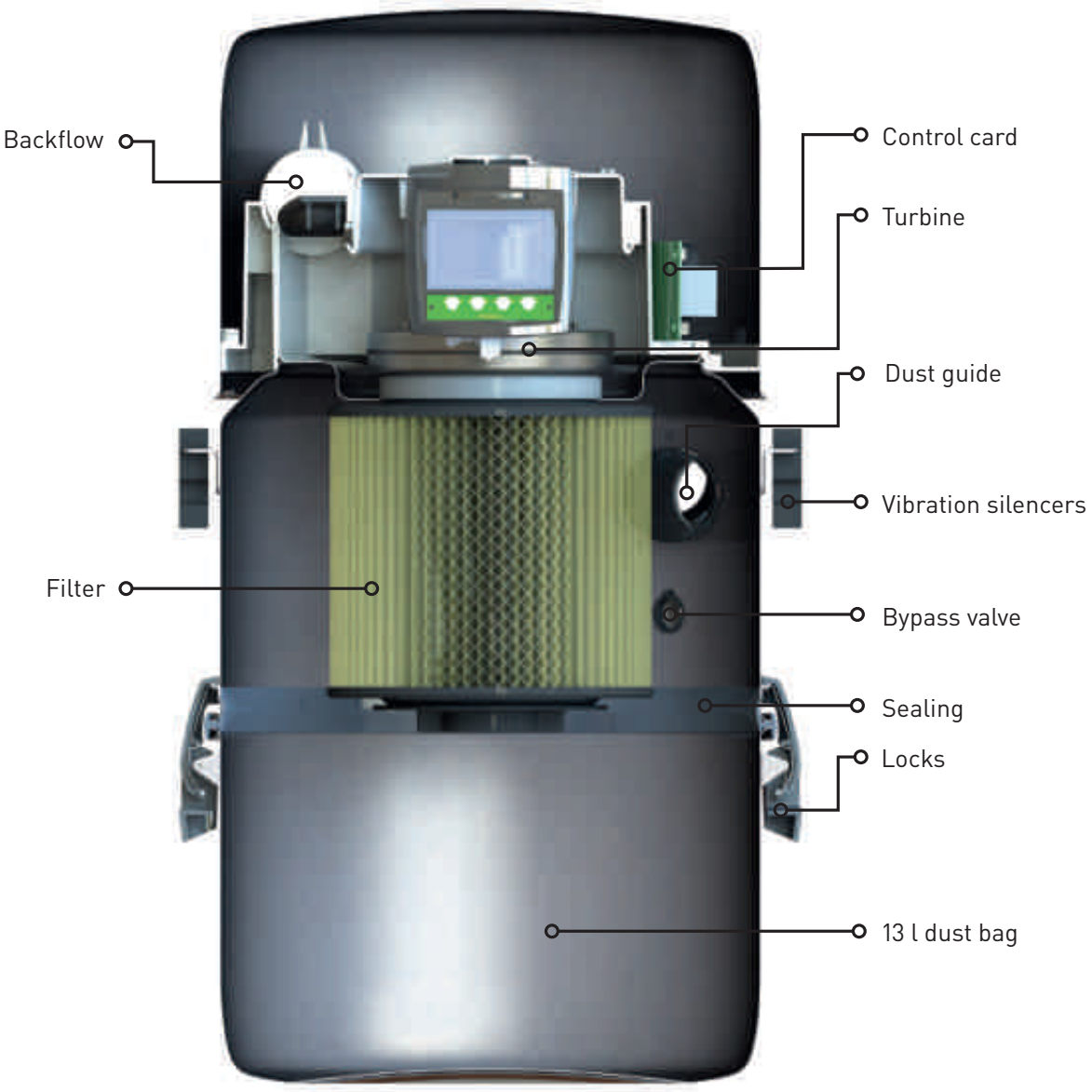
# C-series

The Allaway C-series is a perfect central vacuum cleaner for detached houses, terraced houses and flats. The central units in the C-series are of good size, quiet and stylish. Due to these aspects and also for their safe structure, they can be installed indoors. The central units in the C-series are protected from splashing water. Therefore the machines can be installed in bathrooms. Installation is also possible in utility spaces, garages, storage rooms and other secondary spaces

The maintenance and use of Allaway products is nice and easy. Depending on usage, the emptying frequency of a C-series dust canister (13 l) is 1-4 times per year. Therefore, it needs to be changed less often than dust bags in ordinary vacuum cleaners.

The vacuum cleaners in the C-series are the quietest on the market. Vacuuming doesn't disturb other people in the house. It is possible to talk on the phone at the same time as cleaning, for example.

# STRUCTURE OF THE CENTRAL UNIT



## WALL BRACKET

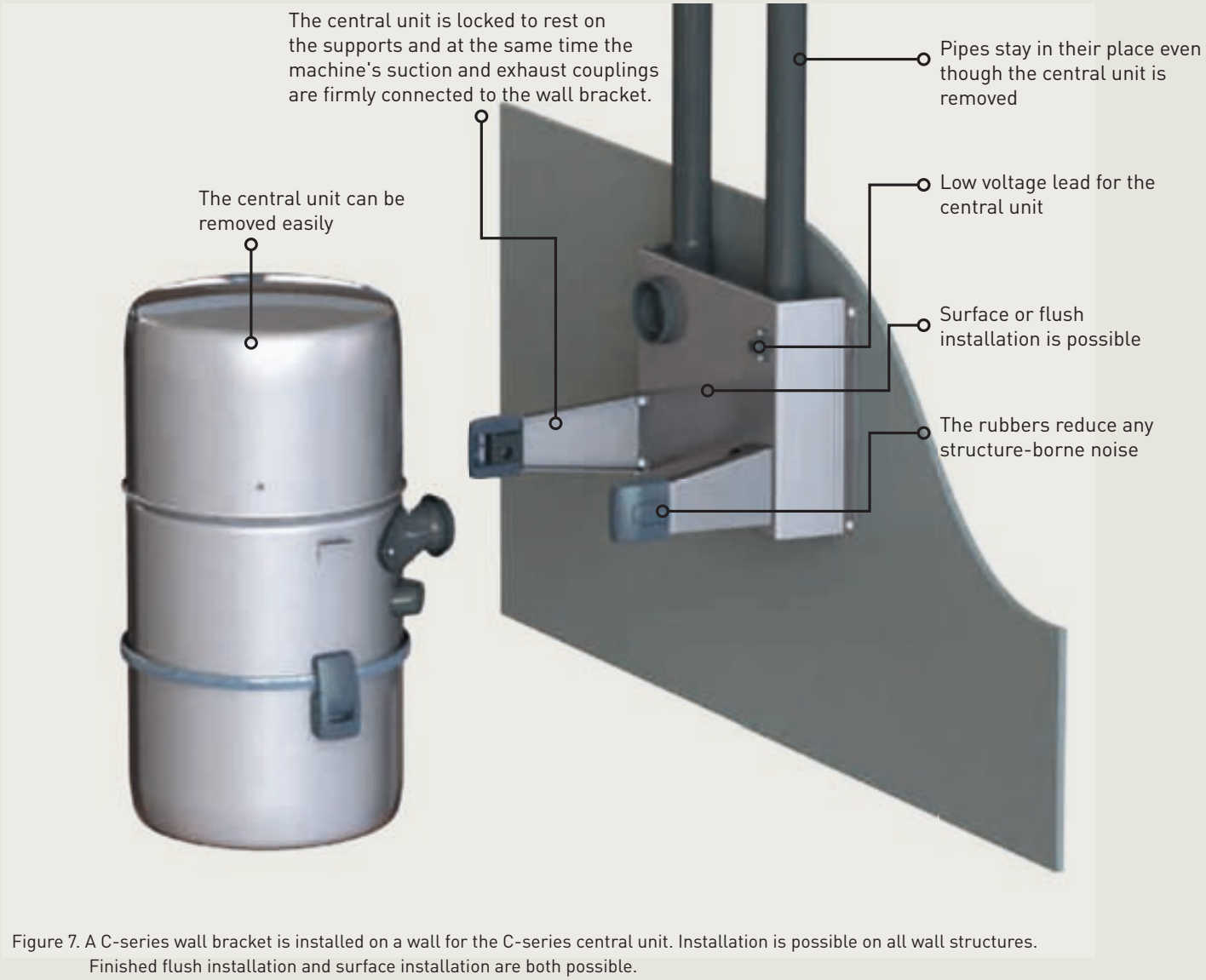

The central unit is locked to rest on the supports and at the same time the machine's suction and exhaust couplings are firmly connected to the wall bracket.
Pipes stay in their place even though the central unit is removed
Low voltage lead for the central unit
The central unit can be removed easily
Surface or flush installation is possible
The rubbers reduce any structure-borne noise

Figure 7. A C-series wall bracket is installed on a wall for the C-series central unit. Installation is possible on all wall structures. Finished flush installation and surface installation are both possible.

Figure 8. C-series flush installation bracket from behind.

Figure 9. Wall bracket from the side.

Figure 10. C-series surface installation bracket from behind.

Figure 11. A convenient storage bracket makes it easy to store cleaning equipment in small spaces.

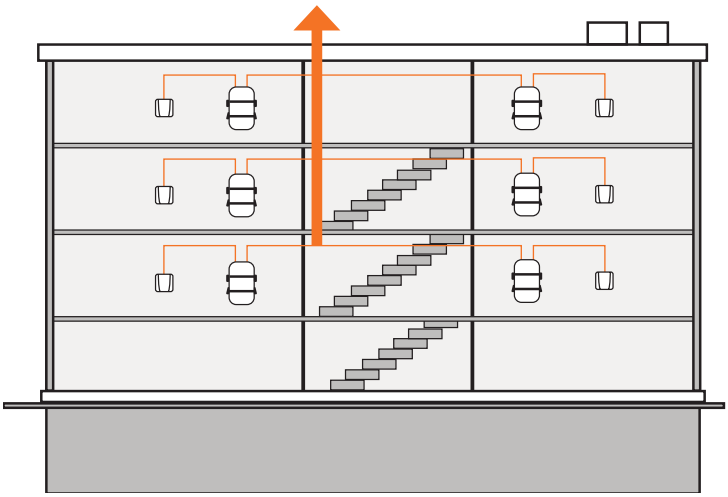


Figure 12. C-series central units are fitted with a backflow valve as stand ard. C-series machines are therefore suitable for installation in flats and their exhaust air can be led into a joint exhaust air duct.

# THE CENTRAL UNIT'S INSTALLATION SPACE

## INSTALLATION IN A CLEANING CUPBOARD

Allaway C-series central vacuum cleaners have a safe structure, they are quiet and compact in size, so they are suitable for installation in a cleaning cupboard. Installation in a cleaning cupboard is made easy and safe with a steady flush installation wall bracket. The dust canister of the central units is easy and clean to empty, with the use of a dust bag.

## TEMPERATURE AND VENTILATION

Central units should be installed in warm spaces. Do not install central units in a space where the temperature may drop to below +5°C or rise above +35°C. These temperature limits are also valid during the operation of the central units. The connection lead in the central units is approximately 1 metre long and it is connected to a 230V socket that is protected by a slow blow plug fuse of at least 10A or an automatic16A fuse. The heat of the central unit's motor is released into the installation space. Therefore it is necessary to make sure that the air around the central unit moves freely and the ventilation in the installation space works.

## BACKFLOW VALVE

The backflow valve, which is located at the vacuum cleaner's exhaust coupling, makes it possible to link several central units to one exhaust air duct. The backflow valve allows air flow only from the central unit to the exhaust pipe (out) and it stops the outdoor air from entering the central unit. The backflow valve closes automatically when the vacuum cleaner is turned off, i.e. when the vacuum cleaner no longer blows vacuumed air into the exhaust pipe.

# INSTALLATION OF THE CENTRAL UNIT

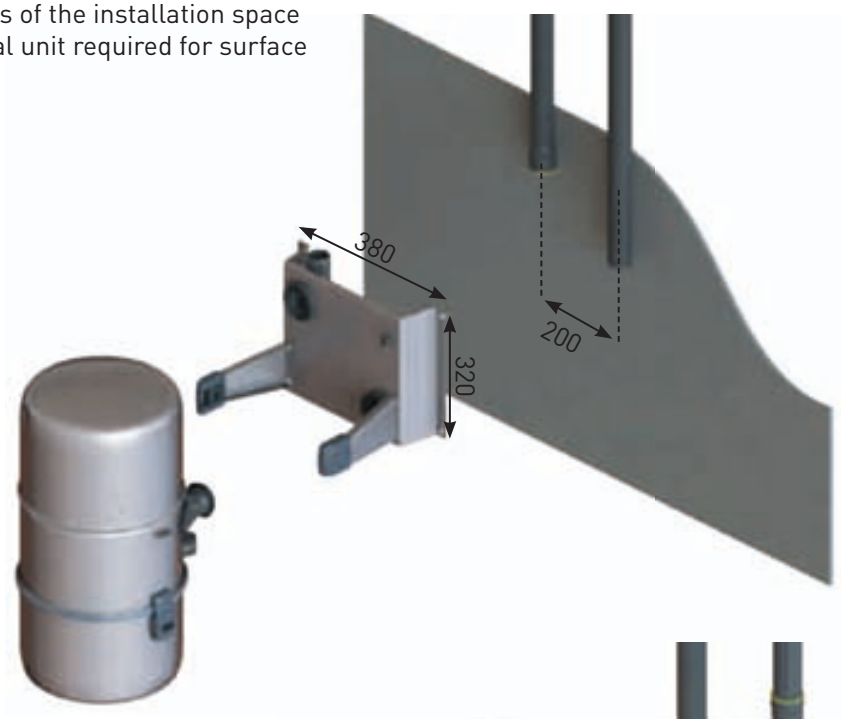
The wall bracket for the C-series central unit can be installed flush to the wall or on its surface.

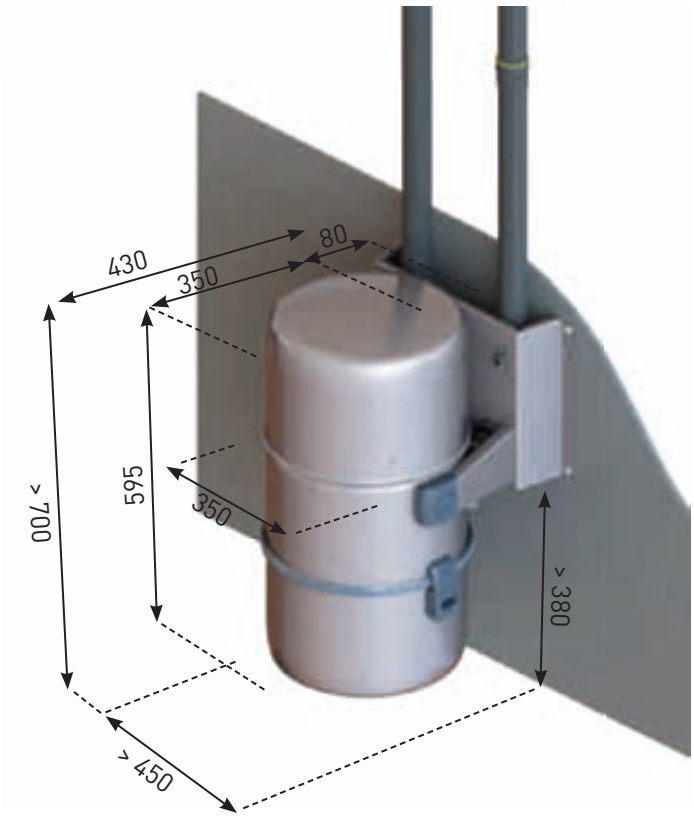
The supports for the central unit are included in the machine delivery and they are attached to the wall bracket. The rubber dampers on the sides of the machine guide the central unit to its correct place. The central unit is locked to the supports with locks.

The central unit is not connected directly to the structure of the house, but it is connected to the wall bracket which means that the noise coming from the inlet and exhaust couplings is quieter. The wall bracket can be installed at the required height, as long as there is at least 50 mm of free space below the central unit for emptying the dust canister.

**Surface installation into a bracket**

Measurements of the installation space and the central unit required for surface installation



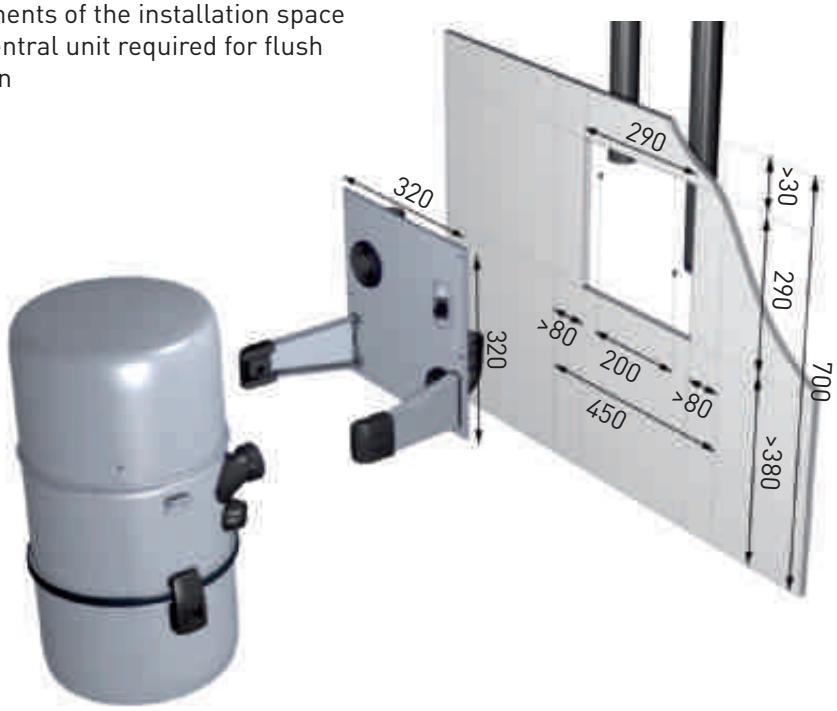



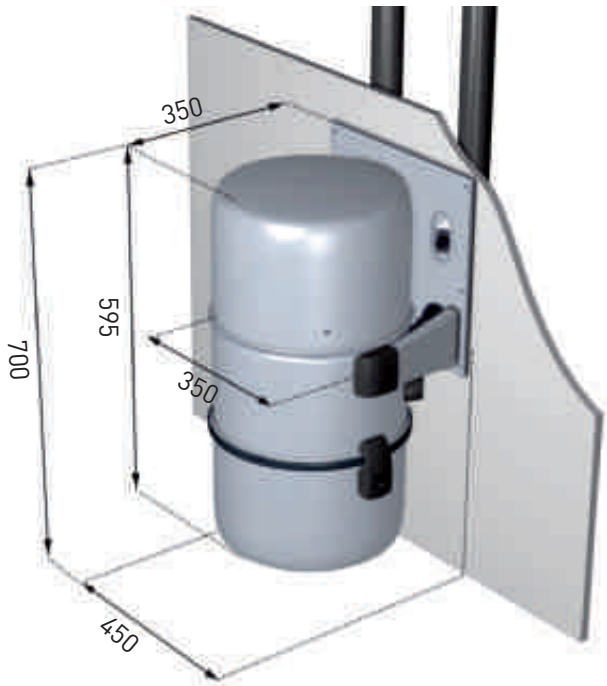
During installation it is important to note that the inlet and exhaust pipes of the central unit are on the right side of the central unit. In flush installation it is important to note that the wall surface of the room behind the wall bracket must be left open. A hole of approximately 290 x 290 mm in size is made in the correct place in the wall panel and a margin of approximately 20 cm is left for the low voltage leads to allow for manoeuvre.

The inlet and exhaust pipes are installed in their places and the low voltage leads are connected to the connectors of the wall bracket. The low voltage plug detaches easily. Finally, install the wall panel in the room behind the wall bracket.

**Flush installation**

Measurements of the installation space and the central unit required for flush installation



# MODELS

## C 30

The C 30 central vacuum cleaner is intended for installation in homes where the length of the pipeline from the central unit to the wall inlet located furthest away is under 30 metres.

30 m
1800W

## C 40

The C 40 central vacuum cleaner is intended for installation in spaces in which the length of the pipeline from the central unit to the wall inlet located furthest away is under 40 metres. The energy efficient C 40 is an ecological option. Its advanced technology means that it produces more power using less energy.

40 m
1700W

## C 40 LCD

The C 40 LCD offers the same technical properties as the C 40. The only difference from the C 40 is that it comes with soft start and an LCD screen as standard. Soft start enables the vacuum cleaner to start quietly and it gradually gets louder. This function protects the motor. The LCD screen gives you a lot of useful information about the need to empty the dust container, the condition of the filter, and the time spent vacuuming, for example. Due to this information the maintenance and use of the central vacuum cleaner has never been easier.

40 m
1700 W

## C40 SONIS

The C 40 Sonis has a sound-activated starter, so it turns on automatically when you start vacuuming. When you stop vacuuming, the flow guard turns off the central unit. This model can also be used in spaces in which the low voltage wiring does not exist or is broken. It is often used in spaces that are being renovated. Otherwise the technical properties of the C 40 Sonis are the same as the C 40.

40 m
1700W

the length of the pipe from the central unit to the wall inlet located furthest away

electrical power

metal frame

splash proof

energy efficient

LCD screen

soft start

sound activated start

# TECHNICAL DATA AND CONTENTS OF THE DELIVERY

| Central units | C 30 | C 40/C 40 LCD/C 40 Sonis |
|---|---|---|
| Electric power max W* | 1800 | 1700 |
| Low pressure max kPa* | 30 | 32 |
| Air power max W* | 610 | 670 |
| Noise level Lp dB(A)+/-2dB** | 57 | 57 |
| Dust canister litres | 13 | 13 |
| Suction piping length max m | 30 | 40 |
| Width mm | 350 | 350 |
| Height mm | 595 | 595 |
| Weight kg | 8 | 8 |
| Splash proof | Yes | Yes (C40) |
| Overload protector | Yes | Yes |
| Overheat protector | Yes | Yes |

* measured from the turbine ** measured according to the IEC 60704 standard

## DELIVERY CONTENTS OF THE PRODUCT

The central unit includes the fine filter, supports, locks and the instructions for use and maintenance.

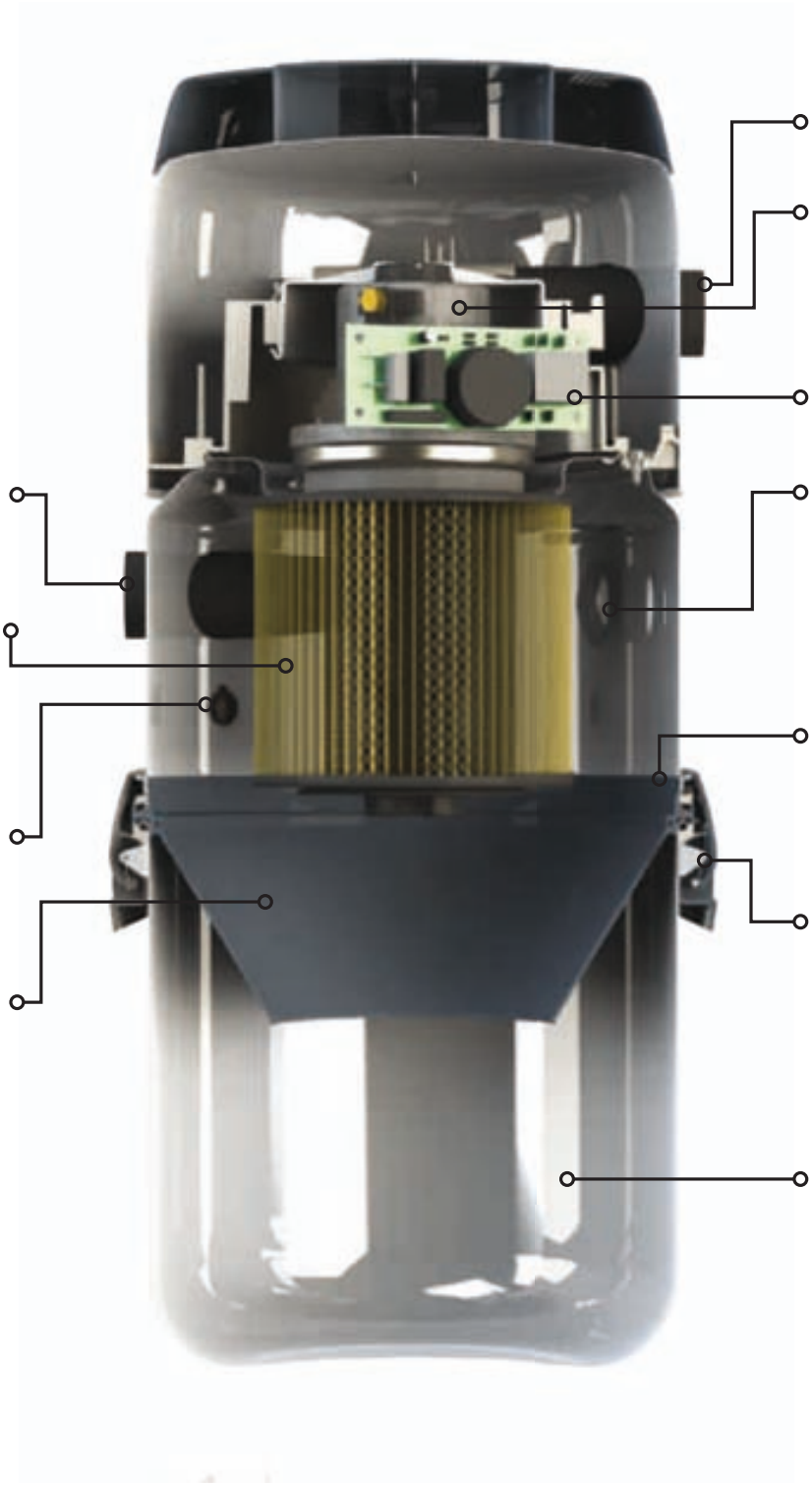
## PRODUCT SPECIFIC ACCESSORIES

| | | | |
|---|---|---|---|
| | **Wall bracket C-series 45 mm grey for raised installations**<br>Product code 80761. | | **Wall bracket C-series for flush installations**<br>Product code 80763. |
| | **Dust bag installation kit 13 L**<br>Product code 81114.<br><br>C-series with a microfibre dust bag.<br>2 pcs. | | **Fine filter A/C-series**<br>Product code 10813.<br><br>**Washable filter**<br>HPAC code 6901371.<br>Product code 10819. |
| | **Dust bag 13 L**<br>Product code 80689.<br><br>C-series microfibre.<br>2 pcs. | | **Filter pack A/C-series**<br>Product code 80692. |

# A-series

The Allaway A-series central vacuum cleaner is suitable for detached houses if the user needs a powerful central unit which is equipped with a large dust canister. A-series central vacuum cleaners are installed in semi-warm or warm utility spaces, garages, storage rooms or other auxiliary spaces. The fire-safe steel structure, durable technique, overheat and overload protectors, large dust canister (20 l), durable motor and splash proof (A 30, A 40, A 60) build are the strengths of the Allaway A-series. Due to the locking mechanism it is easy to empty the dust canister. Depending on usage, the emptying frequency is 1-4 times per year. Therefore, it needs to be changed less often than dust bags in ordinary vacuum cleaners.

# STRUCTURE OF THE CENTRAL UNIT



## CYCLONE CONE

- Used in A-series units.
- Keeps the rubbish down in the dust canister.
- Prolongs the lifespan of the filter.
- Prolongs the maintenance interval of the filter.
- Is removed from the sealing of the dust canister when the dust bag installation kit is installed in the machine.

## DUST CANISTER

All Allaway A-series central units are equipped with a 20 litre dust canister. Due to the locking mechanism, it is easy to empty the dust canister. If the quick-release lock is opened, the canister still hangs safely on the lock and no matter how heavy it is, it won't fall off. The dust bag installation kit is available for all models as an accessory. When equipped with a dust bag, the Allaway central vacuum cleaner is hygienic and easy to empty.

## WALL BRACKET

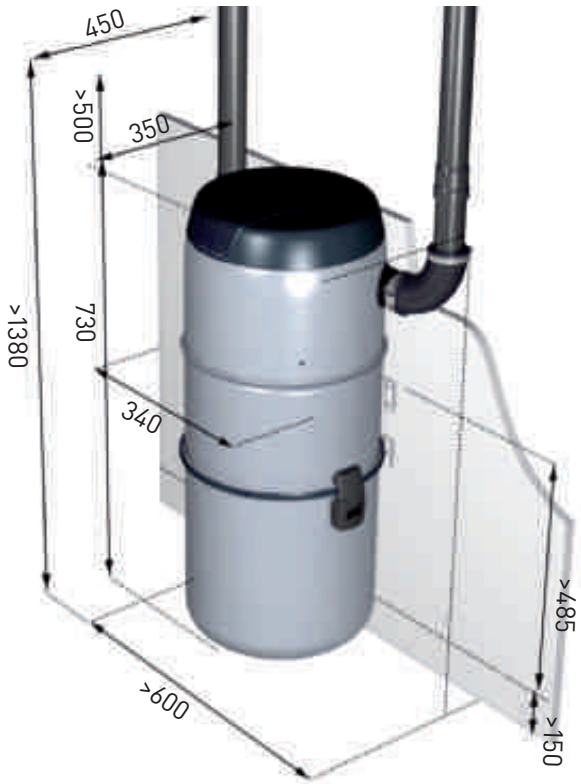
A-series central units come with a secure wall bracket that ensures that the central unit is attached firmly to the wall. The rubber dampers on the wall bracket ensure that the central unit stays firmly at its place and doesn't resonate during vacuuming.

# INSTALLATION OF THE CENTRAL UNIT

The A-series central unit is intended for installation in a utility space, storage room or other secondary space. Do not install the central unit into a cupboard or other small space, otherwise the cooling of the central unit's motor will not work properly. There has to be at least 500 mm of free space on both sides of the central unit (from the centre of the unit to the wall) and above the central unit, and the air must be able to move freely around the central unit.

Screw the wall bracket that is delivered with the A-series firmly to a wall. The wall bracket can be installed at the required height, as long as there is at least 50 mm of free space below the central unit for emptying the dust canister. Put the central unit onto the wall bracket. Connect the suction pipe system to the central unit with a twist hose. Connect the exhaust pipe to the exhaust pipe which leads outside using a twist hose. Finally connect the low voltage leads to the low voltage connector on the unit.

Measurements of the installation space and the central unit required for the installation of the A-series.



# MODELS

## A 30

A 30 central vacuum cleaner is intended for installation in homes where the length of the pipeline from the central unit to the wall inlet located furthest away is under 30 metres.

30 m
1800 W

## A 40

The A 40 central vacuum cleaner is intended for installation in homes where the length of the pipeline from the central unit to the wall inlet located furthest away is under 40 metres. The A 40 central unit is an ecological option: its advanced technology means that it produces more power using less energy. The central unit is equipped with a powerful turbine that has an excellent level of efficiency.

40 m
1700 W

## A 40 LCD

The A 40 LCD offers the same technical properties as A 40, except that the central unit is equipped with an LCD screen as standard. The LCD screen gives you a lot of useful information about the need to empty the dust container, the condition of the filter, upcoming regular maintenance of the central unit, and time spent vacuuming, for example. You can adjust the screen to display data based on your vacuuming behaviour.

40 m
1700W

## A 60

The A 60 central unit is intended for installation in large homes where the length of the pipeline from the central unit to the wall inlet located furthest away is under 60 metres. The central unit is also equipped with soft start.

60 m
2200 W

the length of the pipe from the central unit to the wall inlet located furthest away

electrical power

metal frame

splash proof

energy efficient

LCD screen

soft start

Sound activated start

# TECHNICAL DATA AND CONTENTS OF THE DELIVERY

| Central units | A 30 | A 40/A 40 LCD | A 60 |
|---|---|---|---|
| Electric power max W* | 1800 | 1700 | 2200 |
| Low pressure max kPa* | 30 | 32 | 35 |
| Air power max W* | 610 | 670 | 780 |
| Noise level Lp dB(A)+/-2dB** | 58 | 58 | 64 |
| Dust canister litres | 20 | 20 | 20 |
| Suction piping length max m | 30 | 40 | 60 |
| Width mm | 340 | 340 | 340 |
| Height mm | 730 | 730 | 730 |
| Weight kg | 8 | 8 | 8 |
| Splash proof | Yes | Yes (not A40 LCD) | Yes |
| Overload protector | Yes | Yes | Yes |
| Overheat protector | Yes | Yes | Yes |

* measured from the turbine ** measured according to the IEC 60704 standard

## DELIVERY CONTENTS OF THE PRODUCT

The central unit includes the fine filter, wall bracket and the instructions for use and maintenance.

## PRODUCT SPECIFIC ACCESSORIES

| | | | |
|---|---|---|---|
| | **Dust bag installation kit 20L**<br>Product code 81115.<br><br>A-series with a microfibre dust bag.<br>2 pcs. | | **Fine filter A/C-series**<br>Product code 10813. |
| | **Dust bag 20 L**<br>Product code 80688.<br><br>A-series microfibre.<br>2 pcs. | | **Filter cover A/C-series**<br>Product code 80692. |
| | **Washable filter**<br>Product code 10819. | | |

# V-series

The V-series comprises three sleek V models for every installation situation. The V models are a combination of robust steel covers and modern design using plastic. The power and silence levels have been carefully considered and designed in this series. The V-series can be installed in a heated (+5 ....+35°C) service and utility room, storage room, or other utility room. All models can be retrofitted with a dust bag installation kit.

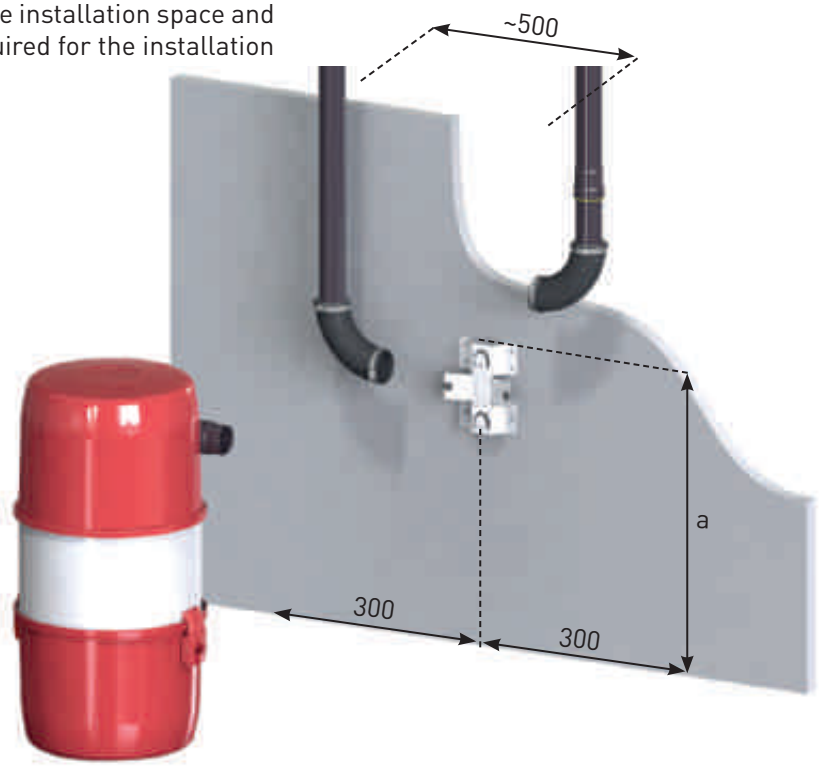
Figure 13. V-series central units come with a steady wall bracket that ensures that the central unit is attached firmly to the wall. The rubber dampers on the wall bracket ensure that the central unit stays firmly at its place and doesn't resonate during vacuuming.

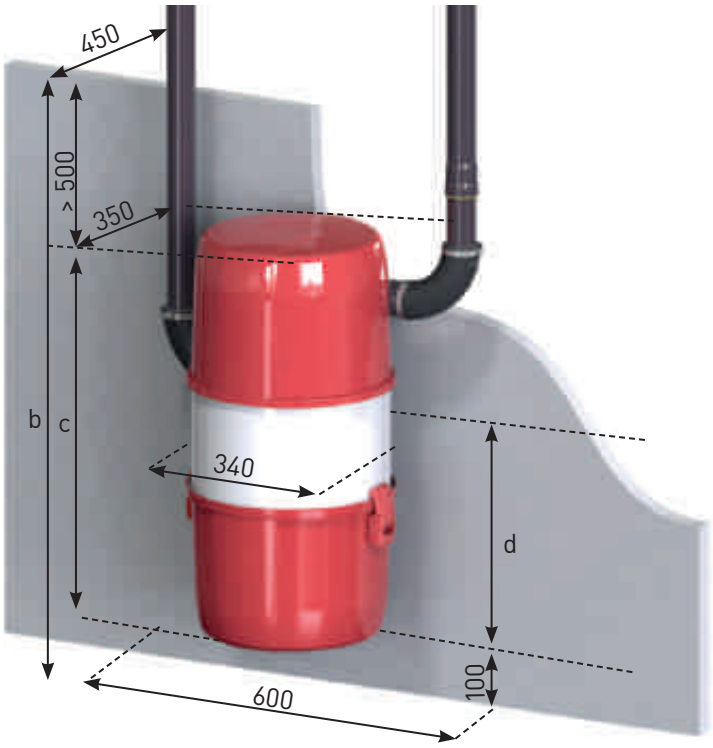
# INSTALLATION OF THE CENTRAL UNIT

Screw the wall bracket that is delivered with the V-series central unit firmly to a wall. The wall bracket can be installed at the required height, as long as there is at least 100 mm of free space below the central unit for emptying the dust canister.

Put the central unit onto the wall bracket. Connect the suction pipe system to the central unit with a twist hose. Connect the exhaust pipe to the exhaust pipe which leads outside using a twist hose. Finally, connect the low voltage leads to the low voltage connector on the unit.

Measurements of the installation space and the central unit required for the installation of the V-series.




| | V3 | V4 | V6 |
|---|---|---|---|
| a | >510 | >510 | >585 |
| b | >1225 | >1250 | >1330 |
| c | 625 | 650 | 730 |
| d | >410 | >410 | >485 |

# MODELS

## V3

The V3 can be fitted in a new building as well as in an existing building with a maximum dust piping system length of 30 metres from central unit to furthest wall inlet. The V3 is installed in a heated (+5 ....+35°C) service and utility room, storage room, or other utility room.

30 m
1300 W

## V4

The V4 is a middle-sized unit for houses and can be fitted to a new building as well as to an existing building with a maximum dust piping system length of 40 metres from the central unit to furthest wall inlet. The V4 is installed in a heated (+5 ....+35°C) service and utility room, storage room, or other utility room.

40 m
1800 W

## V6 POWER PLUS

The V6 is a power unit for bigger houses, villas and small hotels. It can be fitted in a new building as well as in an existing building with a maximum dust piping system length of 60 metres from the central unit to the furthest wall inlet. The V6 is installed in a heated (+5 ....+35°C) service and utility room, storage room, or other utility room.

60 m
2200 W

the length of the pipe from the central unit to the wall inlet located furthest away

electrical power

metal frame

splash proof

energy efficient

LCD screen

soft start

sound activated start

# TECHNICAL DATA AND CONTENTS OF THE DELIVERY

| Central units | V3 | V4 | V6 Power Plus |
|---|---|---|---|
| Dust pipe's length max. m * | 30 | 40 | 60 |
| Operating voltage min. -max. V~50 Hz | 207-244 | 207-244 | 207-244 |
| Electric power max. W ** | 1300 | 1800 | 2200 |
| Vacuum max. kPa ** | 30 | 30 | 35 |
| Air power max. W ** | 480 | 610 | 780 |
| Noise level Lp dB(A) +2 dB *** | 60 | 57 | 64 |
| Dust canister litres (net) | 14 | 14 | 20 |
| Width mm **** | 340 | 340 | 340 |
| Height mm **** | 630 | 650 | 730 |
| Weight kg | 6 | 7 | 7.5 |
| Overheat protector | Yes | Yes | Yes |
| Overload protector | Yes | Yes | Yes |
| Splash proof IPx4 | Yes | Yes | Yes |

* the distance between the central unit and the furthest wall inlet measured along the pipeline

** measured from the turbine

*** Measured according to the IEC 60704 standard

**** check the space requirements from the installation instructions. Allaway's central units are attached to wall sockets protected with a 10A (plug) or 16 A automatic fuse.

## DELIVERY CONTENTS OF THE PRODUCT

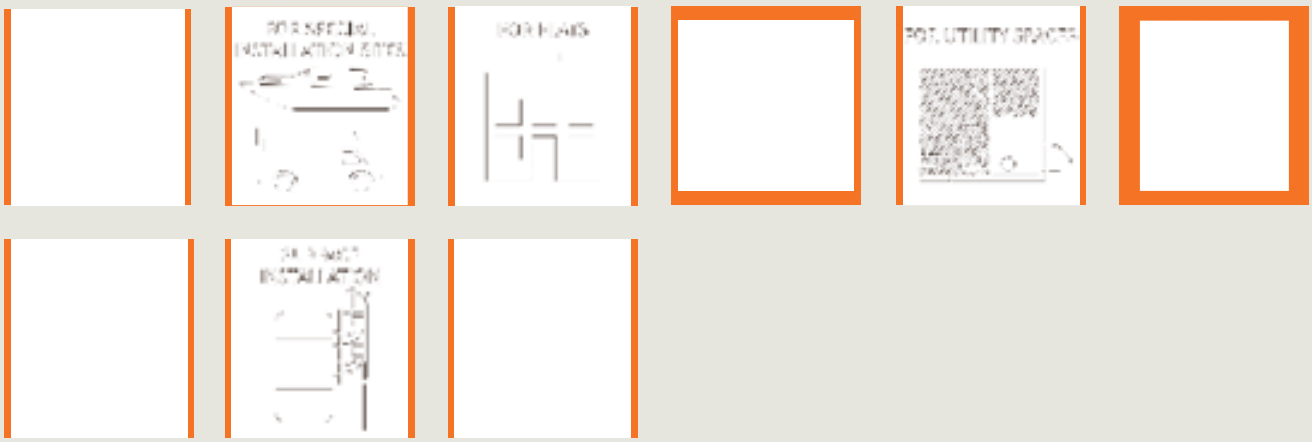
The central unit includes the fine filter, wall bracket and the instructions for use and maintenance.

## PRODUCT SPECIFIC ACCESSORIES

| | | | |
|---|---|---|---|
| | **Dust bag installation kit 13 L**<br>Product code 81114.<br><br>Microfibre dust bag.<br>V3 and V4.<br>2 pcs. | | **Dust bag installation kit 20 L**<br>Product code 81115.<br><br>Microfibre dust bag.<br>V6<br>2 pcs. |
| | **Dust bag 13 L**<br>Product code 80689.<br>V3 and V4. 2 pcs.<br><br>**Dust bag 20 L**<br>Product code 80688.<br>V6 2 pcs. | | **Fine filter A/C-series**<br>Product code 10813. |
| | **Washable filter**<br>Product code 10819. | | **Filter pack A/C-series**<br>Product code 80692. |

# Duo

Thanks to the new Duo unit, the purchase of a central vacuum cleaner is no longer dependent on the size, installation or the installation space of the central unit. The Duo is intended for use in flats, terraced houses and holiday homes. Due to its small size, the Duo can be placed almost anywhere in your home. The stylish black/silver and white/silver colours means that the unit blends in with different types of decor. Therefore, there are many options for selecting the ideal installation location.



# INSTALLATION OF THE CENTRAL UNIT

The Duo unit can be installed in small spaces as it can be mounted horizontally or vertically. The Duo unit is 440 mm wide and 300 mm tall and it weighs just 5.5 kg. It has enough power to vacuum a space of 100 m2 and it reaches the corners located furthest away in the living area. You can use the Duo from one wall inlet or connect suction piping into the wall inlet and install several wall inlets. It is possible to install the Duo in spaces like flats, holiday homes, mobile homes, etc. Find out more about the different options for installation.

## INSTALLATION OPTIONS

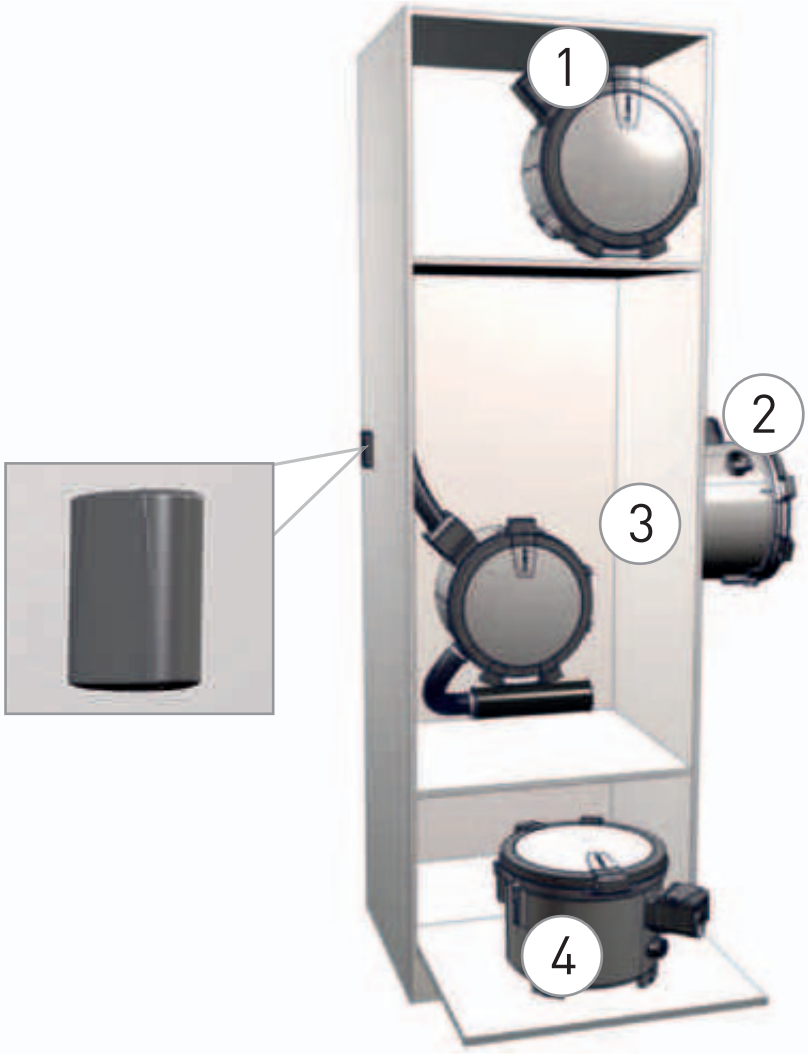



Figure 14. If the unit is installed in a cupboard, we recommend that the wall inlet is placed outside the cupboard so that the cupboard door can be closed during vacuuming.

1. The Duo can be installed with a bracket from the side
   - Vertically on the back wall.
   - Vertically on the side wall.
2. The Duo can be installed with a bracket from the side
   - Horizontally on the shelf (on the floor).
   - Horizontally on the wall.
3. The Duo can be installed with a bracket horizontally from the bottom to the back wall
   - Cover opens from right to left.
   - Cover opens from the top down.
   - Cover opens from right to left.
   - Cover opens from the top down.
4. The Duo can be installed from the bottom
   to the shelf (vertically on the floor)

## INSTALLATION METHOD 1 – exhaust air is released outside

Its small size means that it is easier to place the Duo unit in a central place in the flat, and the installation of the fixed suction pipe that is located inside the structures of the unit becomes unnecessary. The wall inlet can be attached directly to the Duo. All you need to do is to install a pipe for the exhaust air that is blown out. The long and flexible suction hose which is attached to the wall inlet easily reaches all areas in the flat. The Duo unit can also be equipped with suction piping. This enables the installation of additional wall inlets. The wall inlet must be installed in a central location.

Figure 15. Alongside the Duo unit, it is also possible to install a separate wall inlet from which the pipeline can be extended to run normally from one wall inlet to another.

## INSTALLATION METHOD 2 – exhaust air is released into the installation space

If it is not possible to blow the exhaust air outside of the flat, the Duo unit is equipped with the Aparto Kit installation set. The Aparto Kit includes the wall inlet and HEPA exhaust air filter. The exhaust air is filtered to the installation space of the unit, for example, to the cupboard. Therefore, the air flow coming from the exhaust air pipe does not spread the unvacuumed dust to the living area as traditional vacuum cleaners do; instead the exhaust air stays in the installation space of the unit.

## DUO APARTO KIT

The Aparto Kit installation set is used to convert the Duo so that it is possible to install it in a flat in which it is not possible to blow the exhaust air outside. The Aparto Kit comes with a HEPA exhaust air filter which is used to filter the exhaust air into the installation space of the unit.

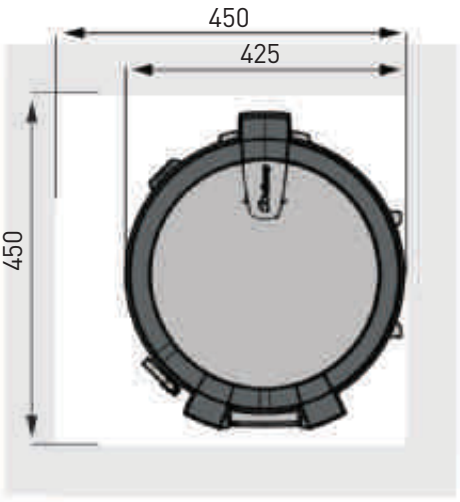
**The Aparto Kit includes:**

- 1 pc wall inlet
- 1 pc HEPA exhaust air filter
- 1 m installation hose to install the wall inlet max one metre away from the Duo
- 1 pc silencer
- 3 pcs cable tie
- 1 pc pipe plug
- 10 cm silencer connection pipe
- 1 pc wall inlet extension
- 1 m low voltage cable

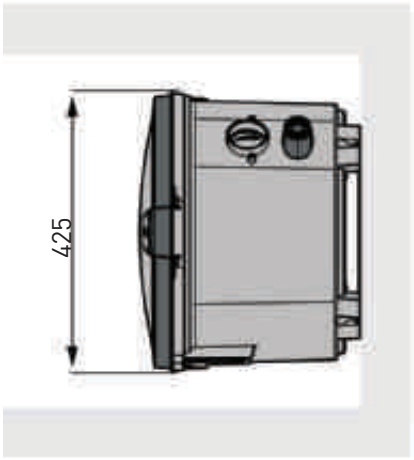
The wall inlet, HEPA exhaust air filter, silencer, pipe plug and low voltage cable are also available separately.

# MEASUREMENTS AND THE REQUIRED INSTALLATION SPACE FOR THE CENTRAL UNIT

**From the front**




**From above**




**From the side**

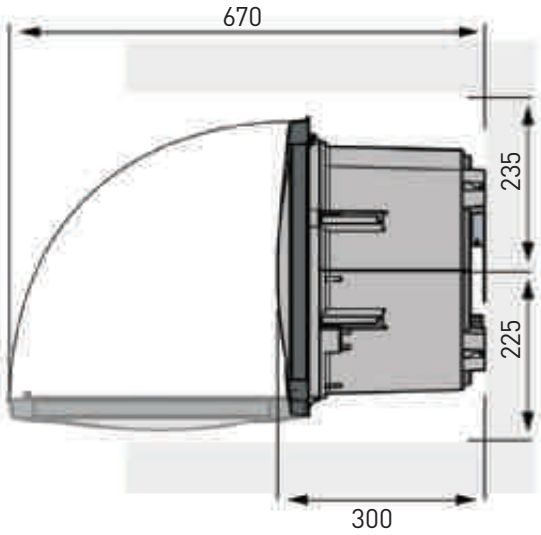


Figure 16. Duo central unit has a secure wall bracket that enables many various ways to install Duo. Wall bracket ensures that Duo is attached firmly to the wall. Duo can be also installed from the bottom to the shelf without wall bracket (Frame 3).

# MODELS

## DUO

The product has been E-certified according to the directive UN-ECE R10. (Directive on electromagnetic compatibility in the automotive field.)

30 m

1300 W

E17

the length of the pipe from the central unit to the wall inlet located furthest away

electrical power

# TECHNICAL DATA AND CONTENTS OF THE DELIVERY

| Central units | Duo Black/White |
|---|---|
| Electric power max W*<br>Low pressure max kPa*<br>Air power max W*<br>Noise level Lp dB(A)+/-2dB** | 1300<br>30<br>550<br>58 |
| Dust canister litres<br>Width mm<br>Height mm<br>Weight kg | 10<br>440<br>300<br>5.5 |
| Overload protector<br>Overheat protector | Yes<br>Yes |

* measured from the turbine ** measured according to the IEC 60704 standard

## DELIVERY CONTENTS OF THE PRODUCT

The central unit includes the 10 l dust bag and instructions for use and maintenance.

## PRODUCT SPECIFIC ACCESSORIES

| | | | |
|---|---|---|---|
| | **Dust bag DUO 10 L**<br>Product code 80687.<br><br>Microfibre 2 pcs/bag. | | **Installation kit DUO Aparto Kit**<br>Product code 81118. |
| | **HEPA filter**<br>Product code 80686. | | **Wall inlet DUO**<br>Product code 80170. |

# Manta

Allaway Manta is a powerful central vacuum cleaner system for professional use in sites in which the cleaned areas and the amount of usage hours are high or if the system is used simultaneously by several users. The typical installation sites include hotels, offices, daycare centres, sheltered homes and other public buildings. The Manta system is not suitable for places where the dust and rubbish to be vacuumed differs from normal household dust, for example in industrial production facilities. During the planning the suitability of the system must be approved by Allaway Oy. The planning, installation and implementation must be performed by an installation company trained by Allaway Oy. Manta systems are planned and offered site-specifically.

**PLEASE NOTE!**

Current official regulations must be followed in the designing and installation of the central vacuum cleaner system. During the design and installation of the suction piping, attention must be paid to compartmentation and materials permitted for use in the installation space. When perforating the wall or floor surfaces in fire compartments, apply the leadthrough instructions for plastic drains. If necessary, use approved fire barrier products, for example firestop collars or masses. Perforation of the pipes with materials falling under fire classification should be avoided, but the pipes can also be insulated by approved fire insulation material, if necessary. The suction piping is usually made using Allaway 44 mm-diameter dust pipes. If other pipes are used in special installation sites, their suitability must first be approved by Allaway Oy.

# DESIGNING THE MANTA SYSTEM

## A SYSTEM FOR ONE USER

The system for one user is designed the same way as other Allaway systems. The piping is led from the wall inlets to the central unit using the shortest possible route and the wall inlets are branched from one 44 mm-diameter pipe.

## A SYSTEM FOR TWO OR MORE USERS

In the system for two or more users, the spaces to be cleaned must be divided into cleaning areas, and all of these cleaning areas have their own 44 mm-diameter piping which is connected to the manifold or the collector pipe in the central unit. In order to guarantee a sufficient flow rate in the piping in all usage situations, only one user can work on one cleaning area at any one time. The volume of air vacuumed simultaneously by several users does not fit into one 44 mm-diameter dust pipe. If a larger pipe is used, the air flow becomes too slow and dust and rubbish cannot move securely to the destination and the risk of blockages rises significantly. Cleaning areas can include the various parts or floors of the building. A layout of the division of the cleaning areas must be made for the users in systems with

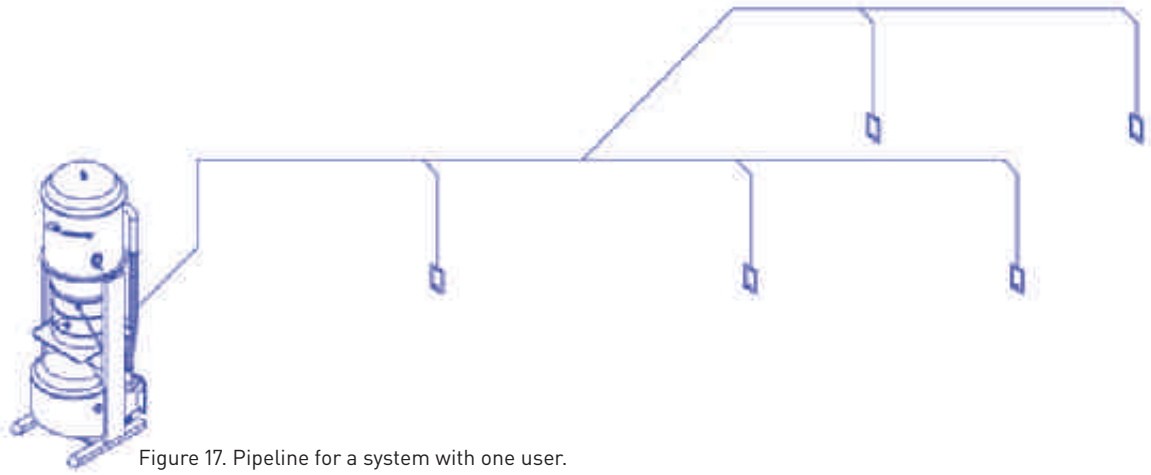


Figure 17. Pipeline for a system with one user.

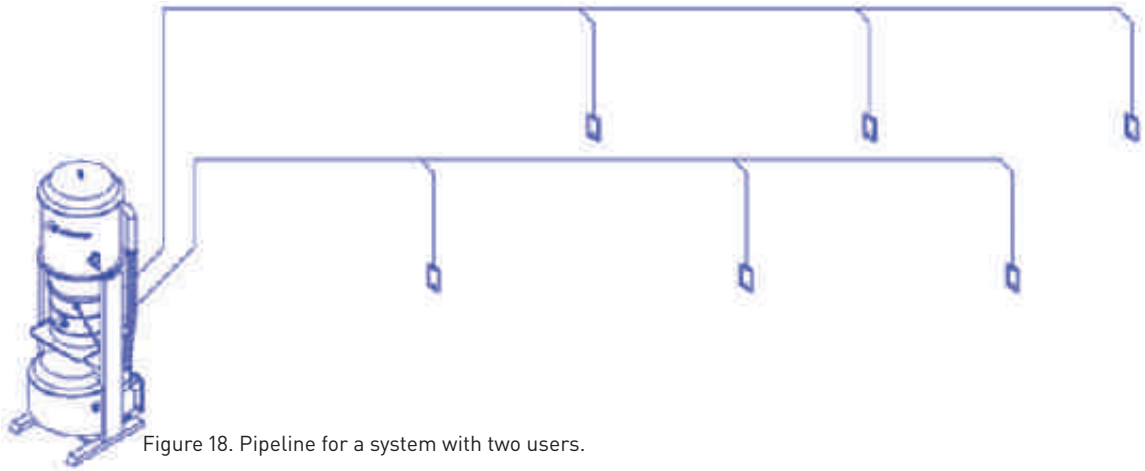


Figure 18. Pipeline for a system with two users.

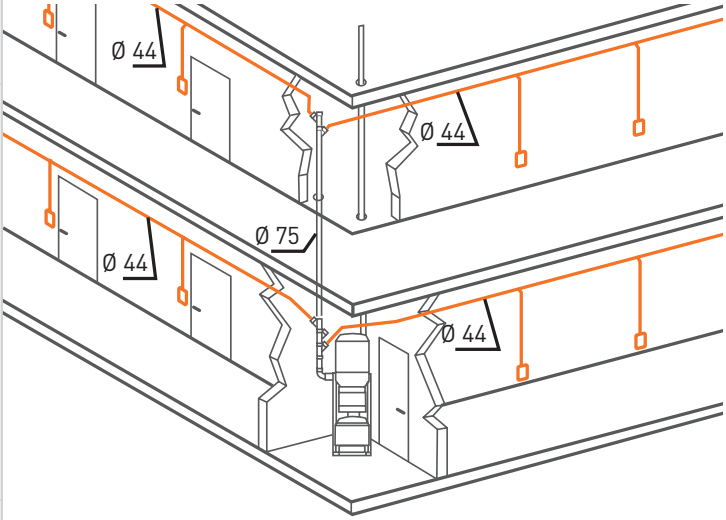



Figure 19. In buildings with several floors, the 75 mm-diameter collector pipe of the central unit can be led vertically through the floors and the 44 mm-diameter dust pipes from the cleaning areas can be joined to the collector pipe on their respective floors. The central unit must be located directly under the collector pipe. The collector pipe may never be designed to be installed horizontally; the sharpest permitted angle is 45°.

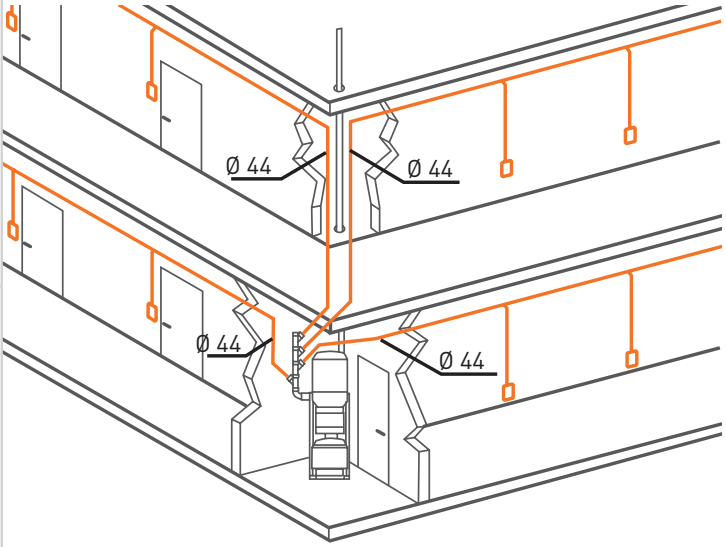



Figure 20. Connection of the pipelines of the cleaning areas into the central unit.

## CONNECTING THE CENTRAL UNIT TO THE DUST PIPING

Each cleaning area has its own 44 mm-diameter dust pipe that is led near the central unit. The pipes are attached to a manifold in the central unit or to a vertical 75 mm-diameter collector pipe which is attached to the inlet coupling in the central unit. The correct rotation direction of the electric motor must be inspected when commissioning the central unit. If the rotation direction is incorrect, the connection of the phase connectors must be changed in the wall socket. The hose couplings between the central unit fan and the filter unit must not be removed and cross-connected under any circumstances. Before closing the structures, test that the system works following the completion of all installation work in the property.

## WALL INLETS

Durable RST wall inlets are used in professional systems. These wall inlets are available lockable or unlockable. The wall inlets can be installed on all wall materials. Lockable wall inlets installed on floors are sufficiently durable for normal walking. The key to the lockable inlets can easily be stored with the cleaning equipment. The RST wall inlets have a reed relay, and the suction hose coupling muff has a magnet that closes the circuit when the suction hose coupling muff is connected to the wall inlet and the switch is turned ON. If required, trim plates and surface housings are also available for the inlets. Please refer to the section regarding the wall inlets.

## TESTING THE SYSTEM

The air tightness of the piping can be checked by closing all wall inlets and starting the central unit by connecting the unit's start circuit using a wire, for example. The central unit should be kept running for a maximum of one minute, and if there is air coming out of the exhaust pipe, the piping is leaking. Locate and repair the leakage. Do not use the unit for more than one minute with all wall inlets closed, because when the turbine receives no air, it will overheat and may get damaged. Do not perform the air tightness check with overpressure.

Check that the system's wall inlets work by turning on the system from the inlets as normal. If the system is not turned on from some of the inlets, check the connections of the low voltage circuit. The system can be checked for possible blockages by sucking a small object into each wall inlet. If the object is not carried all the way into the dust canister, locate and remove the blockage.

**Exhaust duct Ø mm**

| Number of central units | Manta 3000 | Manta 6000 | Manta APC3 |
|---|---|---|---|
| 1 | 100 | 100 | 100 |
| 2 | 100 | 100 | 125 |
| 3 | 125 | 125 | 160 |
| 4 | 160 | 160 | 250 |
| 5 | 250 | 250 | 315 |
| 6 | 250 | 250 | 315 |

Figure 21. Manta system's cleaning equipment set.

## CHANELLING THE EXHAUST AIR

It may be useful to perform the installation of the exhaust air duct together with the ventilation work. Use a spiral-weld tube or other metal pipe for the exhaust air duct that leads out from the central unit. Thermal insulation and airtightness of the exhaust air duct must be sufficient and the locations of the exhaust holes must be determined according to the applicable construction regulations. The measurement of the exhaust air duct depends on the types and number of central units attached to it, according to the following table.

If the length of the exhaust duct exceeds 10 metres, the exhaust duct should be one size larger. Note the temperature of the exhaust air (55-80°C) when planning the exhaust air duct. Do not lead the exhaust air inside the house. It recommended that you use the Allaway turbo exhaust silencer for the exhaust air duct with a diameter of 100 mm. If the diameter is larger, use a silencer intended for ventilation equipment. The best place for the silencer is as close to the end of the exhaust air duct as possible.

## CLEANING EQUIPMENT

Manta systems are delivered with Allaway cleaning equipment intended for professional use and are equipped with a steel handle and a telescopic wand and a large selection of nozzles. Manta systems work with magnet operated inlets. Due to the central unit's control technology, handle-started cleaning equipment may not be used in Manta systems. The cleaning equipment can be tailored to meet the needs of the site.

## VENTILATION IN THE INSTALLATION SPACE

Part of the power of the central unit is transformed into heat. Most of the heat is transferred outside with the exhaust air, but some of it will remain in the installation space of the central unit when the vacuum cleaner is used. The central unit produces heat in the installation space according to the table. The heat load greatly depends on the surface materials of the cleaned areas.

As an example, cleaning fitted carpets produces more heat than cleaning hard floor surfaces. The ambient temperature of the electric motor of the central unit must not exceed 40°C, which is why the excess heat must be removed from the space in question.

The amount of air to be extracted depends on the length of the period of use, the size of the installation space and the wall materials. The general guideline is that the need for ventilation in spaces of less than 20 cubic metres is approximately 55-70 l/s per central unit. If this cannot be arranged through the general ventilation system of the building, thermostat-operated exhaust fans can be used, for example.

# LOCATION OF THE CENTRAL UNIT

Several factors affect the location of the central unit. The following section presents the situation for one central unit. The same principles can be applied for solutions with several central units, if the total area to be cleaned is divided into separate areas for each central unit. The optimal arrangement of the central unit ensures that the length of the dust piping is kept moderate. This results in cost savings and improved cleaning efficiency.

**Requirements for the installation space:**

- For the piping the highest vertical rise allowed is approximately 6 metres.
- There should be approximately 1 metre of free space in front of each central unit for maintenance purposes.
- Several central units may be placed in the same space next to each other.
- Also reserve space for the functional diagrams of the system and the operating and maintenance instructions.
- The central unit is usually located on the ground floor or in a cellar, but it can just as well be located two floors higher than the area to be cleaned.
- The temperature of the installation space must be +5 - +40 degrees.
- Noise level of the central unit is 65-75 dB. Please also note possible noise pollution around the installation space.
- It must be possible to perform maintenance work in the installation space.
- Ventilation in the installation space. More explicit information can be found in the table.

| Ventilation of the installation space | |
|---|---|
| Manta 3000 | 500 - 800 W |
| Manta 6000 | 800 - 1500 W |
| Manta APC 3 | 600 - 1400 W |

# MANTA APC 3

The Automatic Power Control (APC) for the central unit is intended to increase the power of the central unit automatically when more than one user enters the network.

The control unit recognises the change when several wall inlets are opened. The motor operating speed increases to ensure sufficient power for all users. Three wall inlets can be used simultaneously, if they are on separate lines. When a user stops using the system, the power decreases to facilitate the suction power according to the number of open wall inlets.

The system for three simultaneous users also requires the piping to be divided into at least three separate cleaning areas. The basic adjustment of the Manta APC 3 central unit is designed for a system with three users and a maximum line length from the furthest wall inlet to the central unit of 60 metres per user. If there are only two users, an authorised Allaway servicing company may change this adjustment. The inverter moment control line issues a frequency of 40-88 Hz depending on the number of simultaneous users when neither PRESET line is used.

The central unit can also be controlled using fixed rotation speeds (PRESET 1 and PRESET 2). This method is used for cleaning areas with longer lines than the APC control line, where the APC control does not ensure sufficient suction power. The PRESET line should be used in buildings where there are several floors and one area, such as an air-raid shelter, is located somewhere further away. The different floors would form their own cleaning areas and the air-raid shelter would be the PRESET line.

**AN EXAMPLE OF SELECTING THE CENTRAL UNIT**

- Vacuumed surface is 5800 m2.
- Time used for vacuuming is 8 hours - 6 simultaneous users are needed.

**Solutions:**

2 Manta APC 3 central units, if the structure of the building and the location of the central unit are such that the maximum distance between the furthest wall inlet and the central unit is 60 metres, and that there can be three simultaneous users per central unit.

3 Manta 6000 central units, if the maximum distance from the furthest wall inlet is 60 metres. The central units can be located on different sides of the building. There can be two simultaneous users per central unit.

6 Manta 3000 central units, if the maximum distance from the furthest wall inlet is 70 metres.

# MODELS

## MANTA 3000

The Manta 3000 central unit is designed for one user with the maximum distance of 70 metres between a wall inlet and central unit.

4 KW

## MANTA 6000

The Manta 6000 central unit is designed for two simultaneous users with the maximum distance of 60 metres between a wall inlet and the central unit. It is intended for one user per cleaning area.

The system for two simultaneous users also requires the piping to be divided into at least two separate cleaning areas. If used for one user only, the maximum distance between a wall inlet and the central unit is 100 metres.

5.5 kW

## MANTA APC 3

The power of the Manta APC 3 central unit can be adjusted. It is intended for 1-3 simultaneous users. The Automatic Power Control (APC ) considers the number of users in the system and ensures sufficient suction power, while saving energy if only one or two users are using the system.

4 - 7.5 kW

the length of the pipe from the central unit to the wall inlet located furthest away

electrical power

metal frame

splash proof

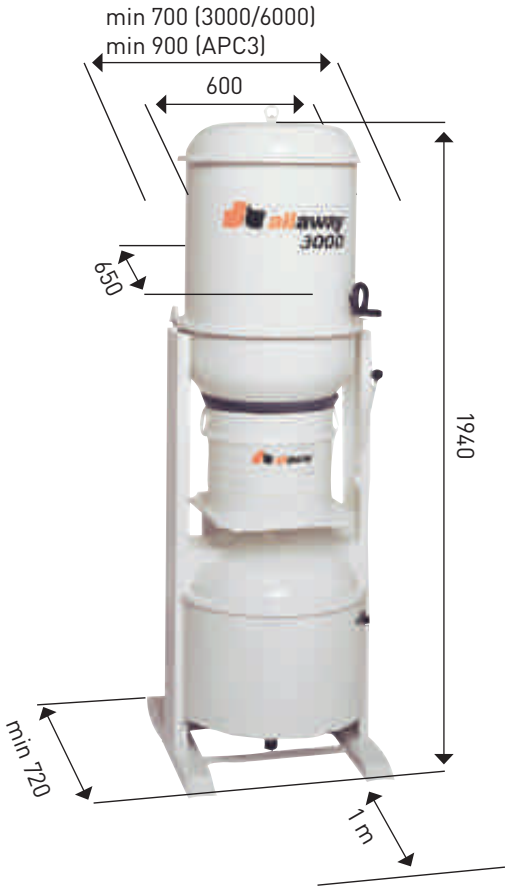
energy efficient

LCD screen

soft start

sound activated start

# MEASUREMENTS AND THE REQUIRED INSTALLATION SPACE FOR THE CENTRAL UNIT




## TECHNICAL DATA

| Central units | Manta 3000 | Manta 6000 | Manta APC | |
|---|---|---|---|---|
| Electric power kW* | 4,0 | 5.5 | 4.0-7.5 | |
| Power connection | 32 A 3-phase coupler plug installation with 25 A front fuses | 32 A 3-phase coupler plug installation with 25 A front fuses | 16 A 3-phase coupler plug installation with 16 A front fuses | |
| Casing class | IP34 | IP34 | IP34 | |
| Low pressure max kPa* | n. 32 | n. 40 | 33 | |
| Air volume l/sec | 108 (390 m³) | 108 (390 m³) | 178 (640 m³) | |
| Noise level Lp dB(A)+/-2dB** | n. 70 | n. 69 | n. 75 | |
| Dust canister litres | 34 | 34 | 34 | |
| Suction hose length (diameter 32 mm) | 8m or 10 m | 8m or 10 m | 8m or 10 m | |
| Width mm | 600 | 600 | 800 | |
| Height mm | 1965 | 1965 | 1965 | |
| Depth mm | 650 | 650 | 650 | |
| Weight kg | 149 | 153 | 155 | |
| Maximum suction distance m (excl. the collector pipe) | | | Automatic | Fixed |
| - 1 cleaner | 70 | 100 | 80 | 100 |
| - 2 cleaners | - | 60 | 70 | 80 |
| - 3 cleaners | - | - | 60 | - |

* measured from the turbine ** measured according to the IEC 60704 standard

# CLEANING EQUIPMENT AND ACCESSORIES

Allaway cleaning equipment is designed and developed to make vacuuming easier, more pleasant and less time-consuming. Special attention has been paid to the functionality, ergonomics and design of the cleaning equipment. The equipment must be of high quality, easy and comfortable to use and aesthetically pleasing.

Our Premium cleaning equipment set has been developed in collaboration with researchers at the Finnish Institute of Occupational Health.

The Premium set is available with a handle or wall inlet starter. Both packages include a large selection of nozzles and a storage bracket.

The Standard set is also available with a handle or wall inlet starter. It is delivered with a telescopic wand made of steel and basic equipment required for cleaning.

# Premium cleaning equipment set

## STORAGE BRACKET FOR THE CLEANING EQUIPMENT

Allaway has developed a bracket that is suitable for storing the cleaning equipment and has a unique place for each part. The cleaning equipment should be stored in a dry, clean space where it is protected from light (15-35 C, 30-80% RH humidity). The Premium cleaning equipment set comes with a cleaning equipment storage bracket that has its own places for nozzles, telescopic wand and suction hose. The nozzle holder has two places for nozzles and more holders can be purchased, if necessary. The cleaning equipment storage bracket can be installed, for example, on the door of the cleaning cupboard, because the suction hose's side holders prevent the hose from getting stuck between the door and the doorframe. The storage bracket is suitable for storage of all Allaway cleaning equipment sets and it can also be purchased separately.

## CONTENTS OF THE PREMIUM CLEANING EQUIPMENT SET

Contents may vary depending on country.

| | | | |
|---|---|---|---|
| | **Handle start**<br><br>8 m and 10 m. | **OR** | **Wall inlet start**<br><br>8 m and 10 m. |

**The Premium cleaning equipment set also includes:**

| | | | |
|---|---|---|---|
| | **Telescopic wand Premium aluminium**<br><br>Product code 81051. | | **Crevice nozzle**<br><br>Product code 80880. |
| | **Floor/carpet nozzle 300, with wheels**<br><br>Product code 80876. | | **Hose holder**<br>Product code 81055.<br><br>**Nozzle holder**<br>Product code 81053.<br><br>**Side holders for the hose**<br>Product code 81054.<br><br>**Nozzle adapter**<br>Product code 80917. |
| | **Furniture nozzle and holder**<br><br>Product code 80870. | | |

## CONTENTS OF THE STANDARD CLEANING EQUIPMENT SET

Contents may vary depending on country.

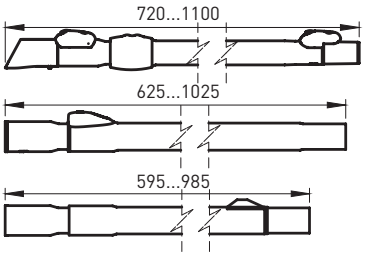
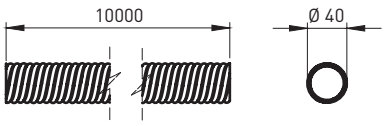
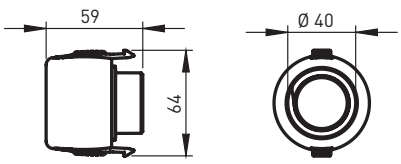
| | | | |
|---|---|---|---|
| | **Handle start**<br><br>8 m and 10 m. | **OR** | | **Wall inlet start**<br><br>8 m and 10 m. |

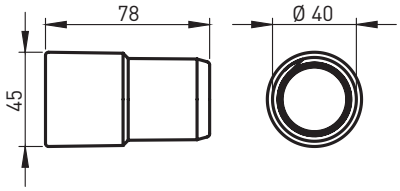
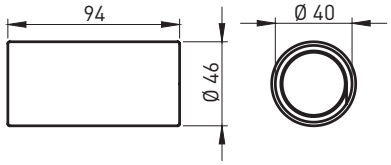
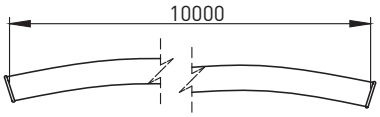
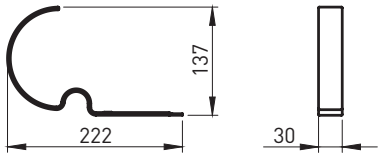
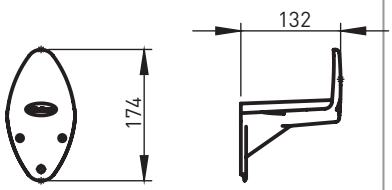
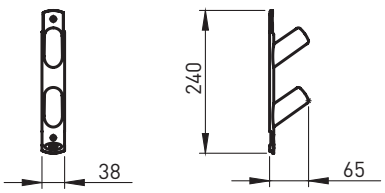
**The Standard cleaning equipment set also includes:**

| | | | |
|---|---|---|---|
| | **Telescopic wand Standard steel**<br><br>Product code 80886. | | **Crevice nozzle**<br><br>Product code 80880. |
| | **Floor/carpet nozzle 270, with wheels**<br><br>Product code 80877. | | **Hose holder**<br>Product code 81055. |
| | **Textile nozzle**<br><br>Product code 80795. | | **Nozzle adapter**<br>Product code 80917. |

# Product list: cleaning equipment

| | | |
|---|---|---|
| | **Premium cleaning equipment sets with a handle start** | **8 m and 10 m.**<br><br>There are country-specific differences in the contents and the product numbers. |
| | **Premium cleaning equipment sets with a wall inlet start** | **8 m and 10 m.**<br><br>There are country-specific differences in the contents and the product numbers. |
| | **Premium suction hose assembly, handle start** | **12 m.** Product code 81242.<br>**10 m.** Product code 81211.<br>**9 m.** Product code 81210.<br>**8 m.** Product code 81262. |
| | **Premium suction hose assembly, wall inlet start** | **10 m.** Product code 81209.<br>**8 m.** Product code 81208. |
| | **Standard cleaning equipment sets with a handle start** | **8 m and 10 m.**<br><br>There are country-specific differences in the contents and the product numbers. |
| | **Standard cleaning equipment sets with a wall inlet start** | **8 m and 10 m.**<br><br>There are country-specific differences in the contents and the product numbers. |

| | | |
|---|---|---|
| | **Standard suction hose assembly, handle start** | **12 m.** Product code 81247.<br>**10 m.** Product code 81244.<br>**8 m.** Product code 81246. |
| | **Standard suction hose assembly, wall inlet start** | **10 m.** Product code 80217.<br>**8 m.** Product code 81216. |
| | **Handles** | **Handle Premium grip**<br>Product code 81052.<br>**Handle Standard steel**<br>Product code 80906.<br>**Handle Standard plastic**<br>Product code 80907. |
| |  | **Telescopic wand Premium aluminium**<br>Product code 81051.<br>**Telescopic wand Standard steel**<br>Product code 80886.<br>**Telescopic wand Standard aluminium**<br>Product code 80885. |
| |  | **Suction hose**<br>**10 m.** Product code 80921.<br>**8 m.** Product code 80928.<br>**6 m.** Product code 80926.<br>**4 m.** Product code 80924.<br>**2 m.** Product code 80922. |
| |  | **Suction hose muff Premium**<br>Product code 80919.<br>Suitable for the new type Optima wall inlets. |

| | | |
|---|---|---|
| |  | **Suction hose muff**<br>Product code 80910.<br><br>**Suction hose muff with reed**<br>Product code 80912. |
| |  | **Extension muff for the suction hose**<br>Product code 80915. |
| |  | **Cover for the suction hose**<br>Product code 80781.<br>Protect sensitive surfaces with a hose cover. Cover for the suction hose helps keep the hose clean. If needed, the cover can be washed in a washing machine. The cover is over 10 metres long. Fits to a hose with a length of 10 metres or less. |
| |  | **Side holders for the hose**<br>Product code 81054.<br>The side supports keep the hose in place so that it does not get stuck in between the cupboard door and the door frame, for example. |
| |  | **Hose holder**<br>Product code 81055.<br>Stores the hose in its proper place in the holder. |
| |  | **Nozzle holder**<br>Product code 81053.<br>For two nozzles. If necessary, install several holders successively. |

# Preseparator

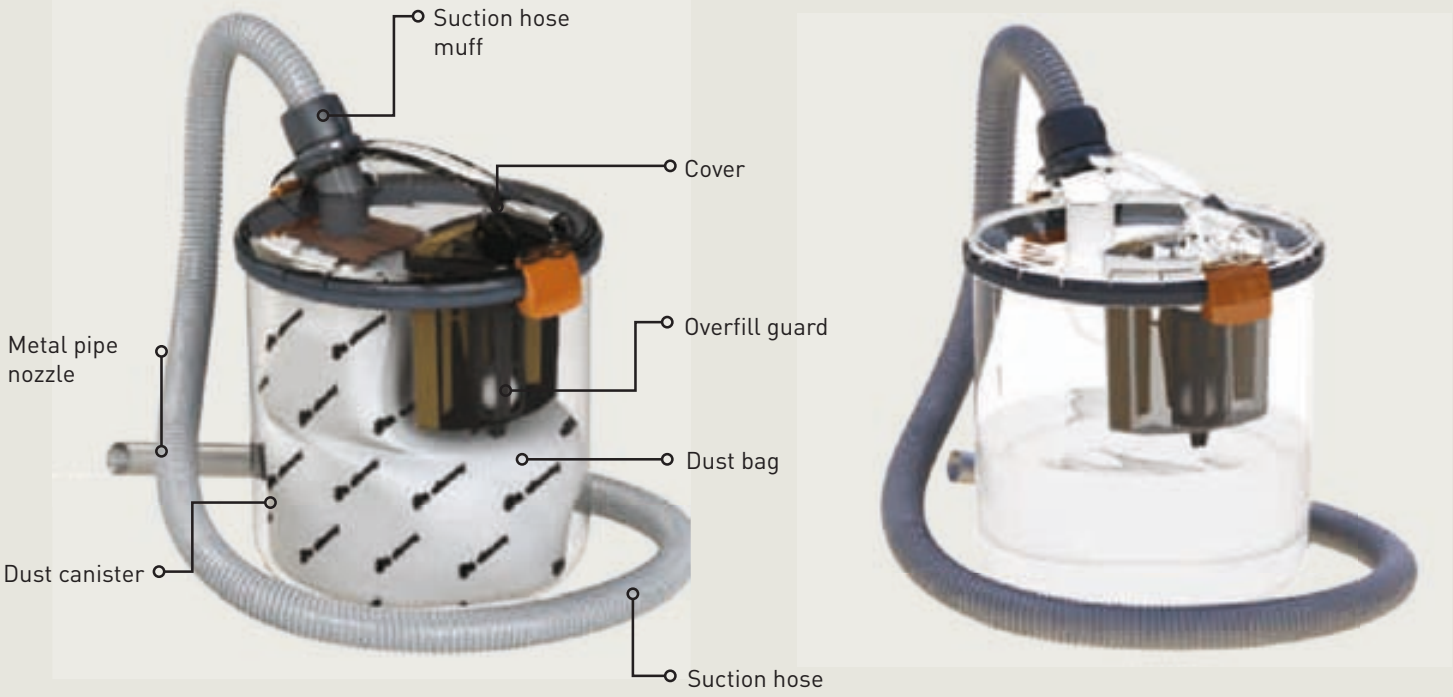



Figure 1. The preseparator is meant for the vacuuming of water, sand and other types of coarse waste. When vacuuming ash or other types of fine dust, a dust bag must be inserted into the preseparator (the figure on the left). When vacuuming water, do not use a dust bag (the figure on the right).

Figure 2. The preseparator is used as an accessory to the vacuum cleaner.

The preseparator is meant for the vacuuming of water, sand and coarse waste. Use a dust bag when vacuuming cooled ashes and fine dust. The preseparator is used as an accessory to the vacuum cleaner. It prevents the waste from entering the vacuum cleaner and its tubing. When vacuuming coarse waste, such as sand, sawdust, scraps of paper or water, the preseparator must be used without a dust bag. The preseparator should not be used for the vacuuming hot ashes, cinders, combustible liquids and gases, or other combustible materials.

| EE-20 package includes: | Technical data: |
|---|---|
| Suction hose, 3 m<br>Metal nozzle<br>Textile nozzle<br>Dust bag<br>Plastic/steel container<br>Overfill guard<br>Washable filter | Dust canister of steel or plastic<br>Capacity 20 l<br>Height 40 cm<br>Wall inlet connection:<br>Allaway suction hose assembly<br>Suction hose length 3 m<br>Filter housing with a quick-release lock<br>Filter<br>Dust bag 20 l, sealable<br>Overfill guard (prevents water from getting into the piping) |

Figure 3. The expandable suction hose expands from one metre to four metres and it is a great help in a quick clean-up of the kitchen or hallway, for example. The hose is easy to store as it can be packed away in a very small space.

Figure 4. The extension hose is especially designed for use in handle-start cleaning equipment. The extension hose extends the existing suction hose and it is easy to attach and remove. It should only be used in situations where it is really needed. You can use the handle-start even if you use a new extension hose.

# Expandable hose

The expandable hose is a great help when cleaning kitchens, hallways and other rooms that get dirty easily. The expandable suction hose expands from one metre to four. At a length of one metre it is easy to store in a kitchen drawer, for example. The central vacuum cleaner can also be used to vacuum a car, so it is a good idea to install one wall inlet in the garage, if needed. A steel or aluminium telescopic wand and a nozzle can be attached to the expandable hose.

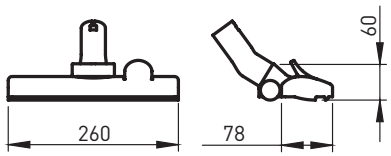
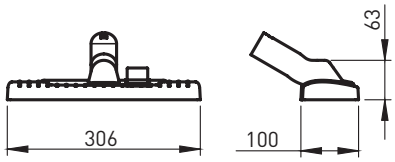
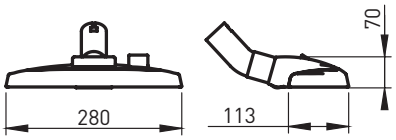
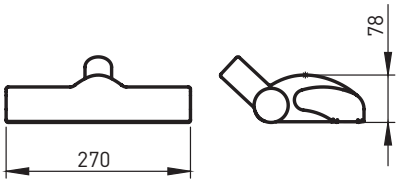
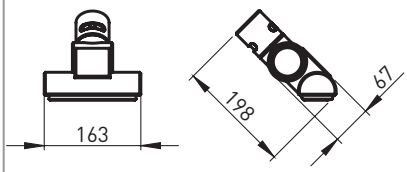
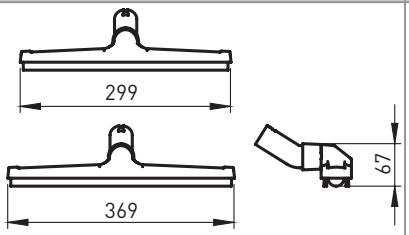
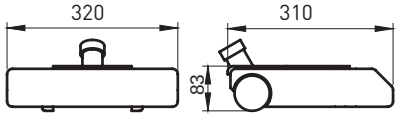
# Extension hose

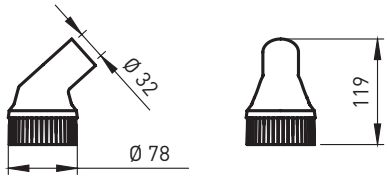
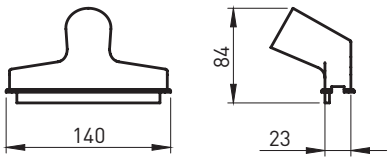
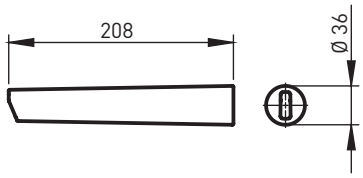
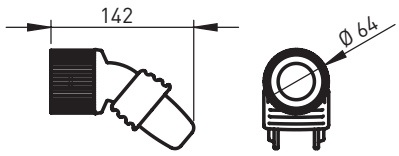
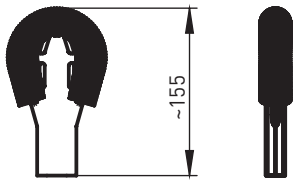
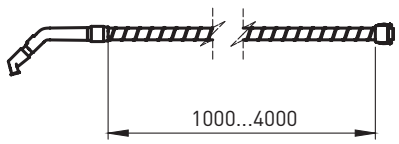
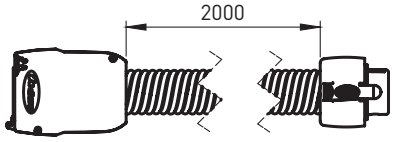
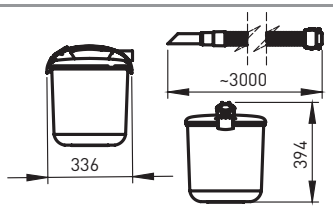
The extension hose is used to extend the length of an existing suction hose. The new, handy Allaway extension hose makes it easy to clean those difficult to reach places such as cars, garages, store rooms, cupboards, cellars, balconies and verandas.

The extension hose is compatible with handle-start models equipped with a click muff. It can also be used with wall inlet-start models equipped with a quick-release click muff.

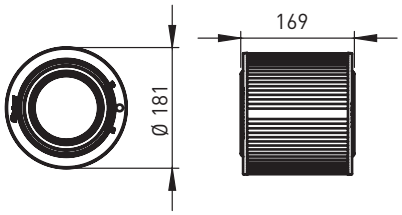
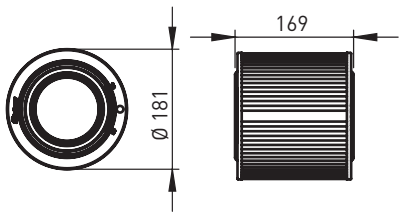
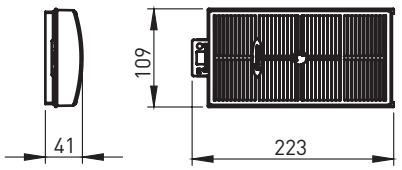
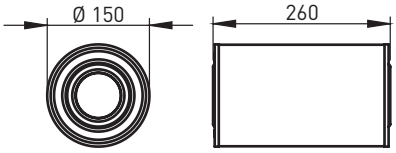
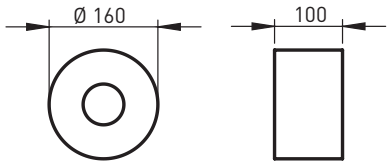
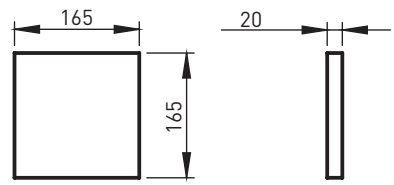
The extension hose is available in lengths of 2 and 4 metres. The extension hose is delivered with a cover for the hose which protects floors and furniture from damage.

# Product list: accessories

| | | |
|---|---|---|
| |  | **Floor/carpet nozzle 270, with wheels**<br>Product code 80877.<br><br>The nozzle's width is 25.5 cm. |
| |  | **Floor/carpet nozzle 300, no wheels**<br>Product code 80867.<br><br>The nozzle's width is 30.5 cm. |
| |  | **Floor/carpet nozzle 300, with a wheel**<br>Product code 80876.<br><br>The nozzle's width is 28 cm. |
| |  | **Power brush for carpets**<br>Product code 80717.<br><br>The power brush for carpets is 27 cm wide. |
| |  | **Power brush for furniture**<br>Product code 80712.<br><br>The power brush for furniture is 16 cm wide. |
| |  | **Hard floor nozzle 300**<br>Product code 80991.<br>**Hard floor nozzle 370.**<br>Product code 81263. |
| |  | **Power brush turbocat**<br>Product code 80716. |

| | | |
|---|---|---|
| |  | **Cloth tool with brushes (round basic)**<br>Product code 80795. |
| |  | **Textile nozzle**<br>Product code 80981.<br>Use the textile nozzle to clean various textile surfaces. Textile nozzle's width is 14 cm. |
| |  | **Crevice nozzle**<br>Product code 80880. |
| |  | **Furniture double nozzle**<br>Product code 80870.<br>Different structures and surfaces are easy to clean with a double nozzle as it works in two directions. Includes a convenient nozzle bracket. |
| |  | **Radiator nozzle**<br>Product code 80875.<br>The radiator nozzle is attached to the crevice nozzle.<br>The radiator nozzle is<br>10 cm wide and 16 cm long. |
| |  | **Expandable hose**<br>Product code 81203. |
| |  | **Extension hose**<br>**2 m.** Product code 80855.<br>**4 m.** Product code 80856. |
| |  | **Preseparator EE-20**<br>**Steel.** Product code 80608.<br>**Plastic.** Product code 80609.<br>**Dust bag 20L microfibre. 2 pcs.**<br>Product code 80688. |

# Product list: filters

| | | |
|---|---|---|
| |  | **Fine filter**<br>Product code 10813.<br>A-series, C-series (from 1991-), Combo, V-series. |
| |  | **Fine filter, washable**<br>Product code 10819.<br>A-series, C-series (from 1991-), Combo, DV30. |
| | | **Filter cover**<br>Product code 80692.<br>5 pcs/package<br>Suitable for use with fine filters 10813 and 10819. |
| |  | **Exhaust air filter HEPA, Duo**<br>Product code 80686.<br>Used if the exhaust air cannot be lead outside. Filtration class H12. |
| |  | **Fine filter**<br>Product code 10815.<br>K series (KP1500, KP1800). |
| |  | **Filter pair**<br>Product code 10810.<br>Machines equipped with a KP foam filter pair ( 1982-1990): KP-1200, KP1300, KP-1400S, EE-22 and Nokipois. |
|  |  | **Filter EE-20**<br>Product code 80691. |

NOTES